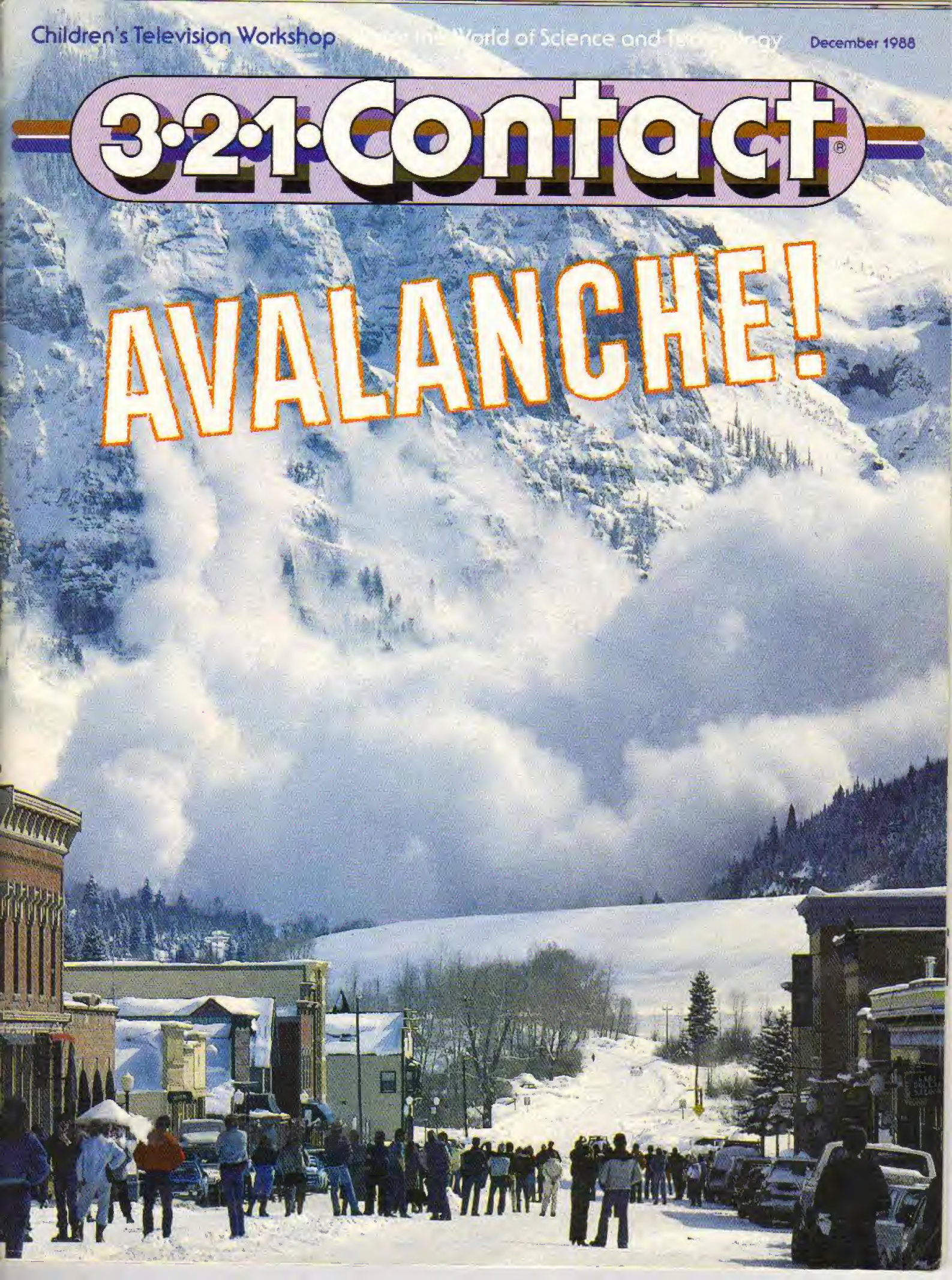


3·2·1·Contact®

AVALANCHE!



Contact Lens

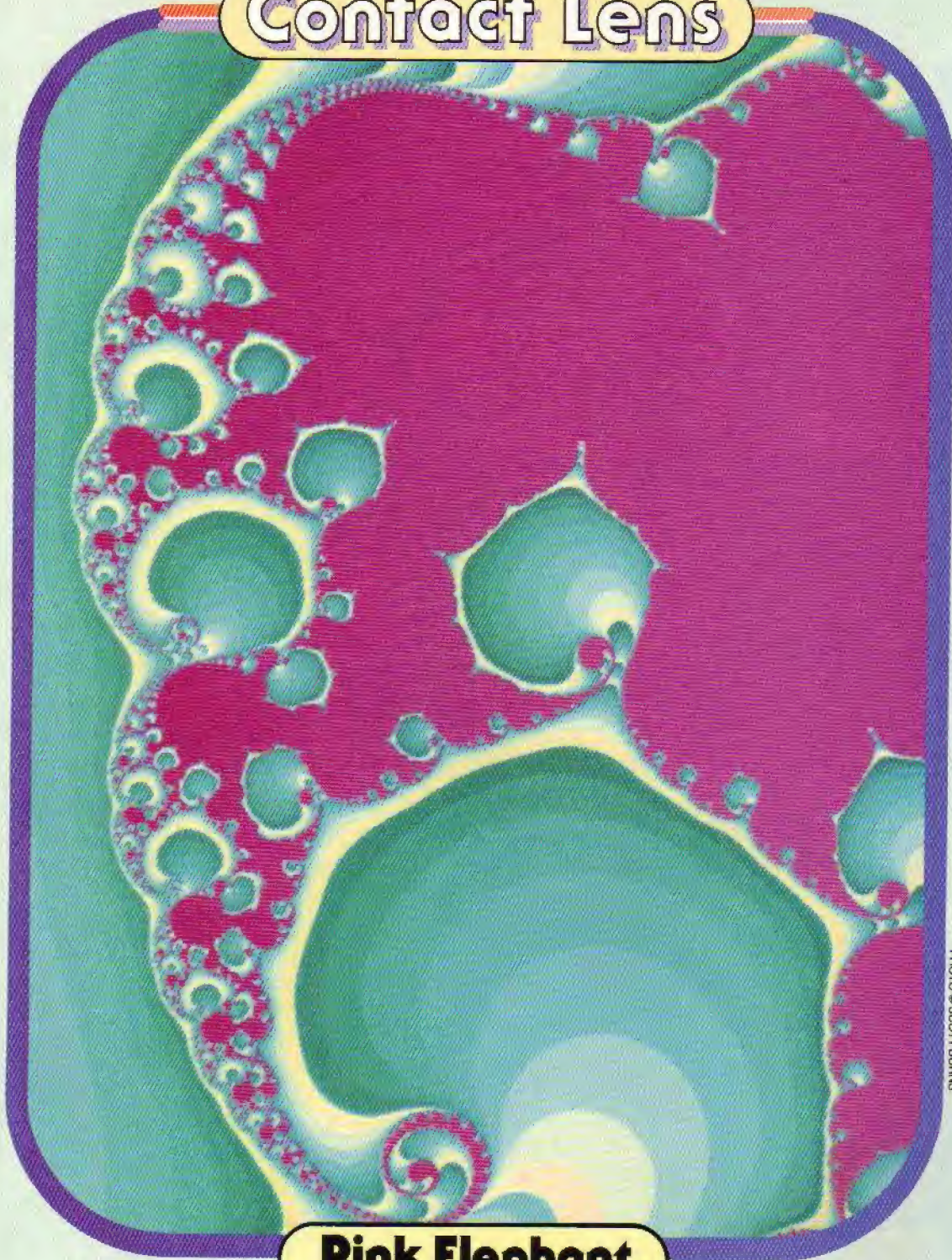


PHOTO © SCOTT BURNS

Pink Elephant

To some people, this photo looks like a pink elephant. Of course, elephants the color of cotton candy don't exist—unless someone has been playing tricks.

The picture of our "pink elephant" is the result of a complicated mathematical formula that was fed into a computer. The

special formula is called a *fractal*. Mathematicians and scientists are interested in fractals because they can produce irregular shapes, like ones found in nature.

Fractals may one day help scientists to figure out some of these beautiful patterns, like a snowflake or the stars in the sky.

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Winner/National Magazine Award
General Excellence



Award Winner/Feature Category

3-2-1 Contact (ISSN 0195-4105) is a publication of the Children's Television Workshop, published ten times during the year, monthly except for February and August. © 1988 Children's Television Workshop. All rights reserved. All contents owned by the Children's Television Workshop and may not be reprinted without permission. 3-2-1 Contact is a trademark and a service mark of the Children's Television Workshop. Printed in the U.S.A. Number 92, December 1988. Editorial offices: One Lincoln Plaza, New York, NY 10023. Send subscription orders to 3-2-1 Contact, P.O. Box 53051, Boulder, CO 80322-3051. POSTMASTER: Send address changes to: 3-2-1 Contact, P.O. Box 53051, Boulder, CO 80322-3051 (including label from cover of magazine). Subscriptions: 1 year U.S.A. \$13.97. Canada and other countries add \$6. Second-class postage paid at New York, NY and additional mailing offices. Bulk copy rates to schools and other institutions available on request.



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COVER: The people of Telluride, CO., watch from a safe distance as an avalanche takes place. Photo © Bill Ellzey.

From Jersey's Shore

When students at the Eastlake School in Parsippany, New Jersey, realized their state didn't have an official fish, they decided to do something about it. They asked their state lawmakers to pass a bill naming the short-nosed sturgeon as the state fish.

What's so special about a short-nosed sturgeon? The students chose it because it has lived for centuries in New Jersey's Delaware River. Now it is in danger of dying out. The kids hope to save the sturgeon by making it the official state fish.

At the same time, at least three other schools have named their candidates for the official state fish.

"So, we decided to let all the kids in the state decide," Sally Welsh told CONTACT. She is an official for the state of New Jersey.

Students in schools all over the state will vote for their favorite fish. When the votes are counted,

the winner will be declared the official fish. So thank you "buoys" and "gills." May the best fish win.



ILLUSTRATION BY LAVON

Turn That Jacket Down!

Portable tape players are terrific when it comes to carrying your music with you. But sometimes it's impossible to carry the portable tape player *plus* everything else you might want to bring: the cassettes, the Frisbee, the bike, your books.

The Toshiba Corporation may have a solution. Their "audio clothes" are specially designed to hold everything you'd ever need to carry a stereo with you wherever you go.

The TOSBAX Sonic Jacket comes with four speakers sewn into the shoulders and chest, a built-in battery pack, and other stereo parts. Just put a tape cassette player or radio in the front pocket and your jacket becomes a walking, singing, and dancing sound system. Now, if only it could make popcorn!

Bunny Power

Ever notice how much warmer a room gets when there are a lot of people in it? People give off "body heat" which raises the temperature of the room. Animals give off body heat too. That's why Anna Edey, of Martha's Vineyard, MA, moved a lot of rabbits and chickens into her greenhouse.

Usually, greenhouses are equipped with heat lamps to keep the climate just right for the plants to grow. Those lamps use a lot of electricity.

But Ms. Edey's greenhouse uses the energy from the sun plus the body heat of chickens and rabbits to keep it at the right temperature.

"We use 30 rabbits and about 75 chickens," Ms. Edey told CONTACT. Just having the animals in the same room creates enough heat for the plants. Will Ms. Edey's energy-saving plan catch on with other farmers? Let's "hop" so!

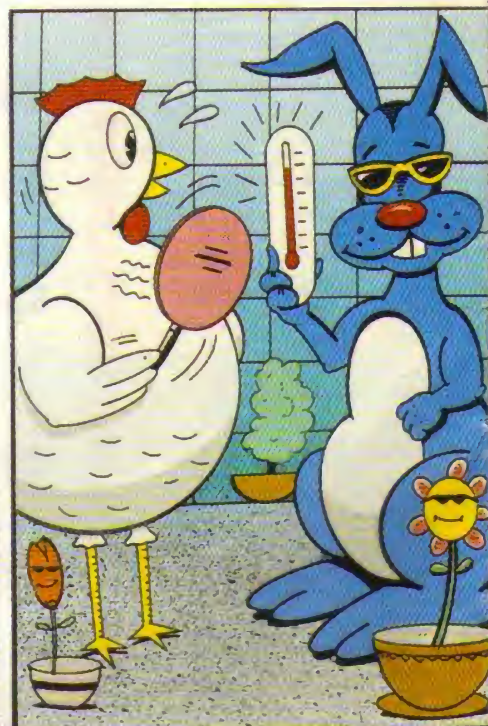


ILLUSTRATION BY CAMERON EAGLE

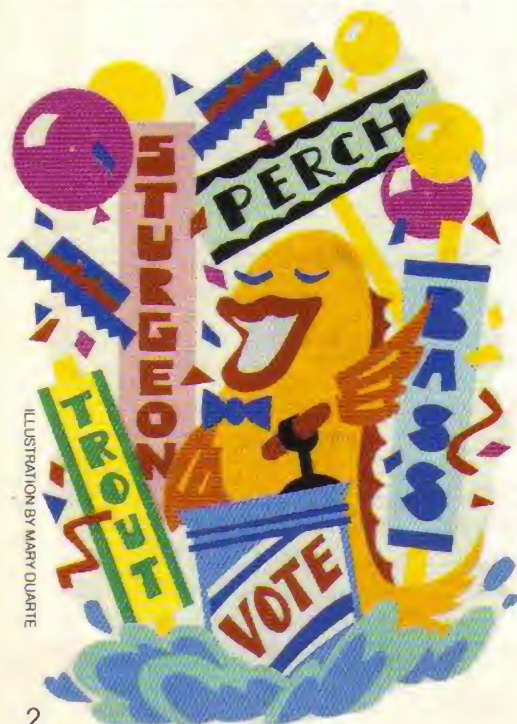


ILLUSTRATION BY MARY DUARTE

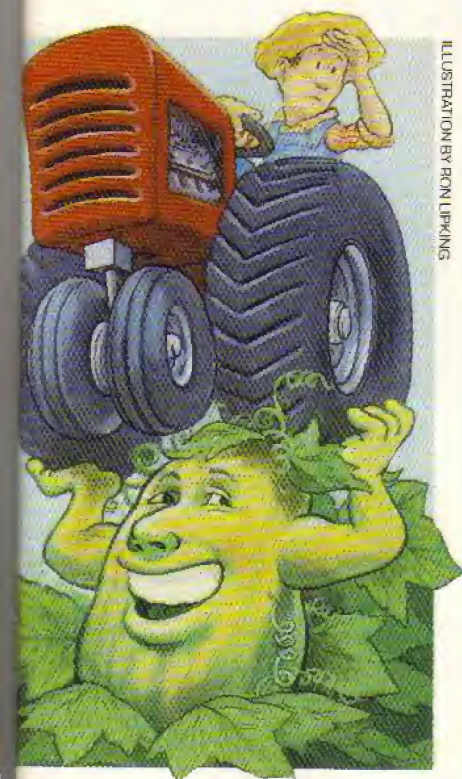


ILLUSTRATION BY RON LIPKINS

Super Squash

You've heard it plenty of times: "Eat your vegetables and you'll grow strong." But did you ever hear of a strong vegetable? John Edelson and Lester Whitney have. They are professors at the University of Massachusetts. The two men are conducting an experiment to show that a growing squash has enough power to lift a tractor!

They designed a small box made of hard plastic for the squash to grow in. The box has a moveable bottom which is attached to springs. As the squash grows, it presses down on the springs. And the springs press down a see-saw which lifts the tractor.

"The squash has to grow someplace," Professor Whitney told CONTACT. In the box, the squash has nowhere to grow but down. And it pushes down with tremendous force.



PHOTO © GERRY GROUP

This giant croquet game was held in Nevada's Black Rock Desert. These players used trucks to hit long shots and battering rams for short shots.

Walking Desk

What's the matter? Can't sit still? Now you don't have to walk away from your desk to get some exercise. Just turn on an invention called the Walking Desk, and walk while you talk on the phone or type on your computer!

Attached to the Walking Desk is a treadmill. While you work, you stand on the moving treadmill and walk to stay in place.



PHOTO © PHIL ROSENBERG

Nathan Edelson, the inventor of the Walking Desk, thinks that walking while you work is healthier than just sitting. It's better for your body and it keeps you more alert.

"When you sit for a long time, your muscles are working hard, holding you up," Edelson told CONTACT. But your heart isn't circulating your blood very fast. When you walk, your blood circulates more quickly and brings more oxygen to your brain. That could help you think more clearly.

In addition to a computer, the Walking Desk also has room for a video monitor. That way you can watch a tape of ocean waves crashing as you do your homework. According to Edelson, this relaxes the eye. Hey, why didn't George Jetson have one of these?

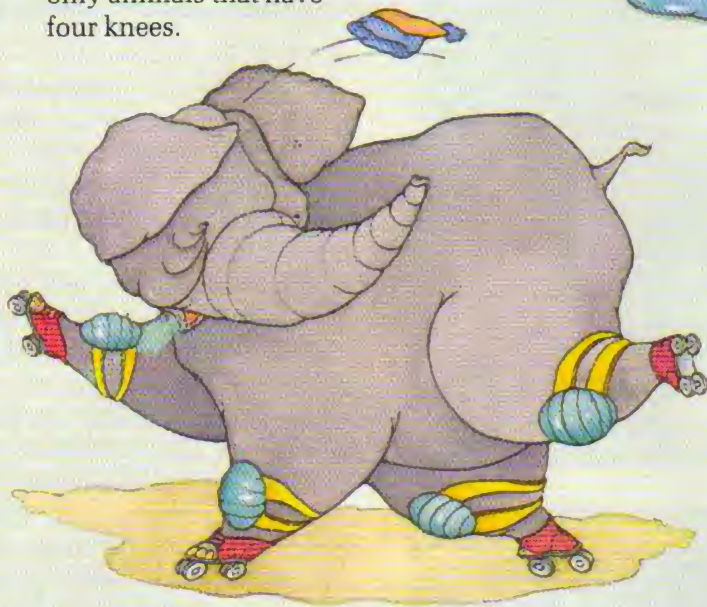
So What's New?

You tell us and you'll get a nifty CONTACT T-shirt—if we print your story. Send us any science story from the news that you think our readers would like to know about. (Be sure to tell us your T-shirt size and where you heard the story.) Send to:

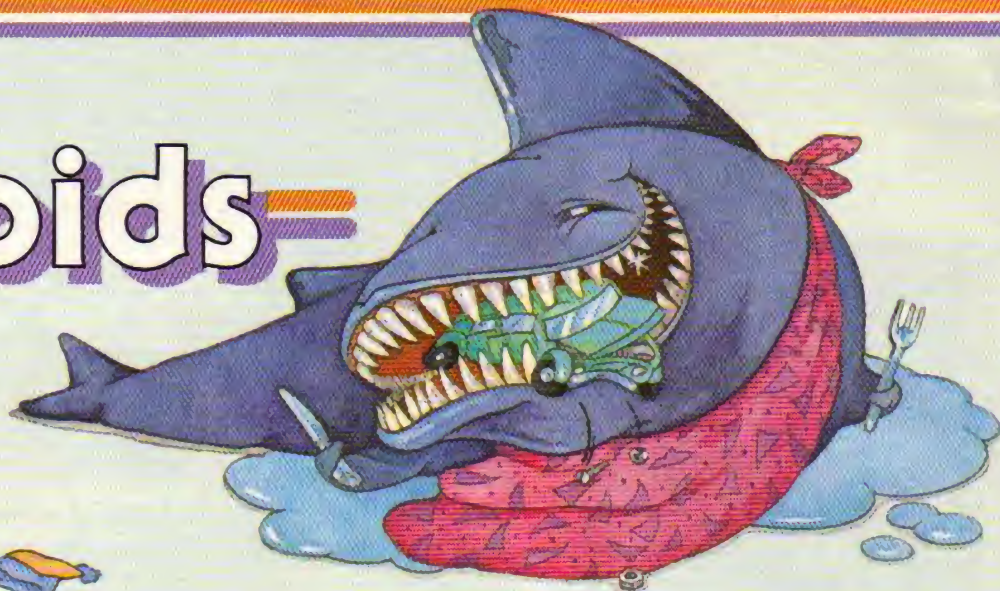
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Factoids

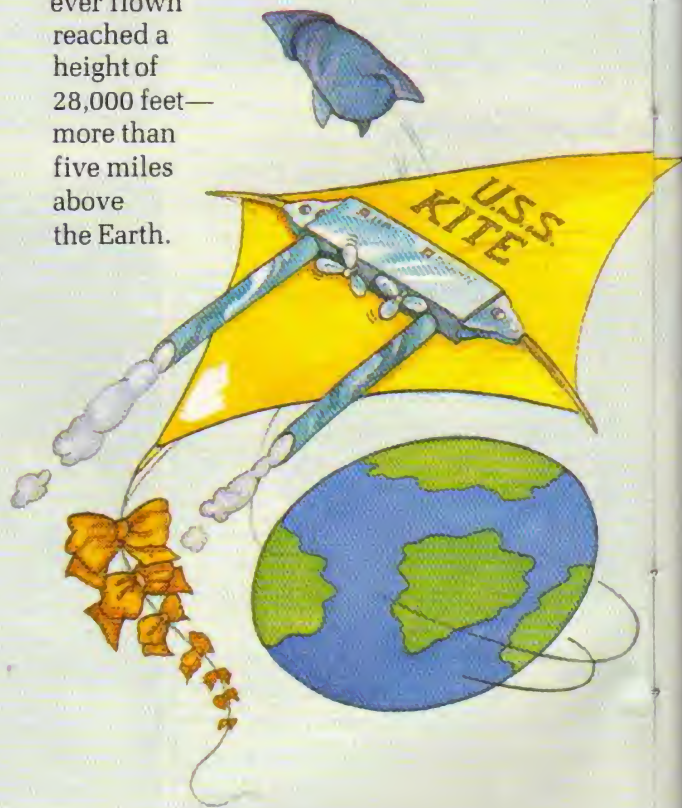
Elephants are the only animals that have four knees.



A shark's teeth are as hard as steel.



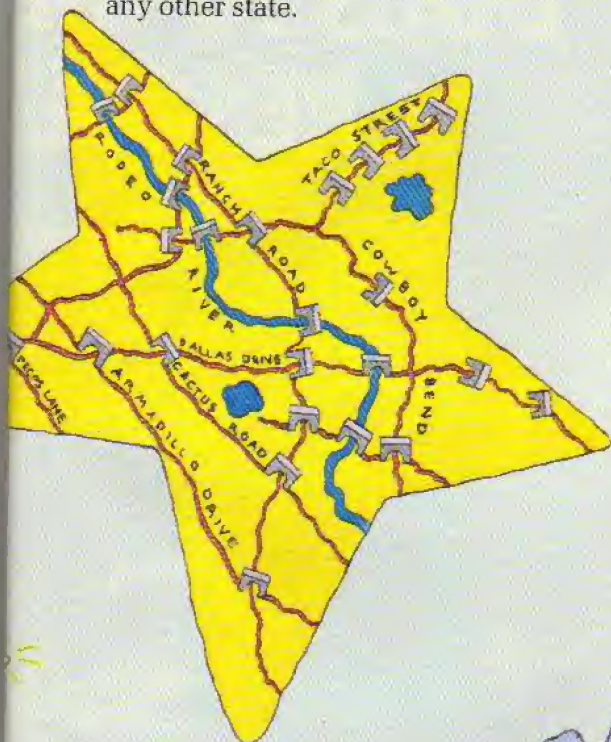
The highest kite ever flown reached a height of 28,000 feet—more than five miles above the Earth.



Your ear can distinguish about 400,000 different sounds.



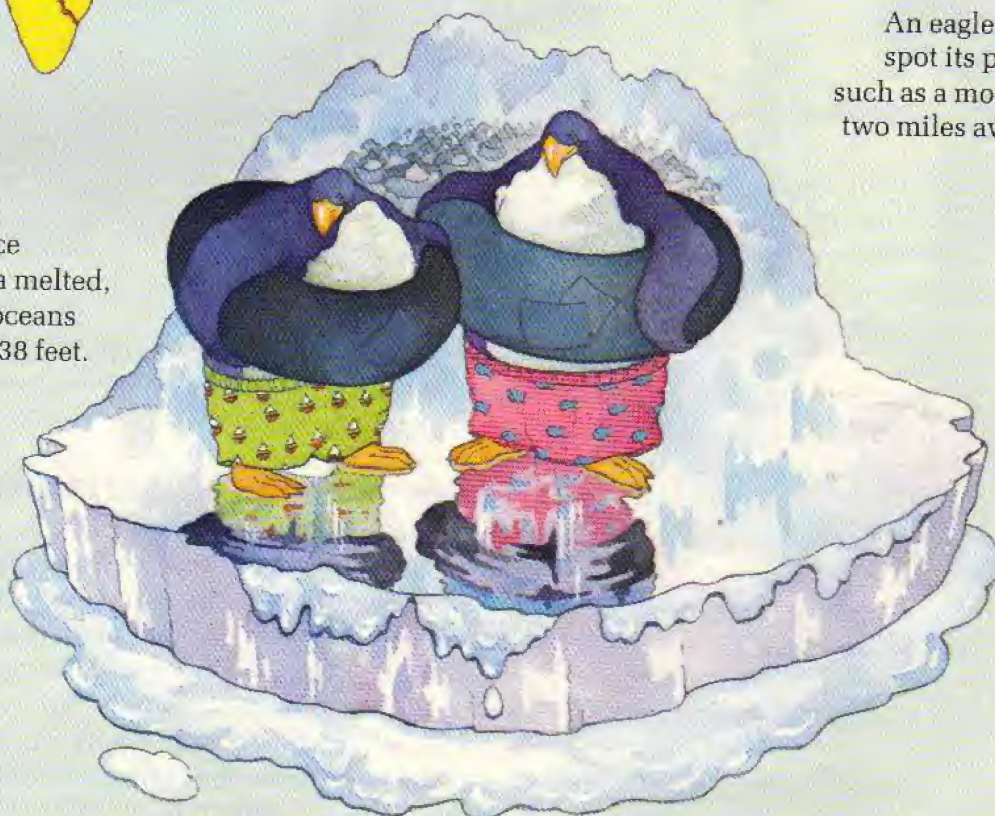
There are more
bridges in
Texas than in
any other state.



ILLUSTRATIONS © MICHELE NOISET

An eagle can
spot its prey,
such as a mouse,
two miles away.

If all of the ice
in Antarctica melted,
the world's oceans
would rise 238 feet.



AVALANCHE!



DOGS TO THE RESCUE!

by Rita Getty

The snow on the mountain slopes glistens in the bright March sun. Pine and fir trees stand among the white drifts of snow like green exclamation points. The gentle whoosh of skiers racing down the trails are the only sounds this early spring day.

Suddenly, and without warning, snow and ice, dirt and rock, hurtle from the side of a mountain burying everything along the way. Skiers race for cover. Avalanche!

An avalanche (AV-uh-lanch) is a deadly mass of snow and ice that thunders down a mountain-side. It can destroy houses and cars as if they were toothpicks. And it can bury people who are unlucky enough to be caught in this moving river of snow. One avalanche in Santa Valley, Peru, killed 20,000 people.

Some areas have more avalanches than others. In some places, mountains are very steep. So the snow has a hard time sticking to the tops. These areas are called "hotspots." Taos Ski Valley in

New Mexico is an avalanche "hotspot." It is also the home of two dogs that rescue people caught in avalanches.

Meet Sheila and Feliz Naughty Dog

Sheila and Feliz Naughty Dog are Taos Ski Valley's hard-working avalanche rescue dogs. Sheila is seven years old and weighs 83 pounds. Feliz Naughty Dog is four years old and weighs 64 pounds. Both dogs work eight hours a day, five days a week from November through April.

Sheila and Feliz are Labrador retrievers. "Labrador retrievers are my favorite type of avalanche dog," Chât Campbell told CONTACT. He is Sheila's owner and the head of the Avalanche Dog program at Taos Ski Valley.



Right: Feliz Naughty Dog and Sheila are on call every day of the skiing season. In case of avalanche, the dogs get to work immediately.

Below: Sheila gets a ride on a ski lift to the top of a mountain.

"Labs get along well in cold, snowy conditions because they have thick waterproof coats and webbed feet. The webs between their toes turn their paws into little snowshoes. These little snowshoes keep them from sinking into the deep snow. So we call them 'wonderpaws.'"

Rey Deveau, Feliz Naughty Dog's owner added, "Labs have sparkling personalities, and they are hard workers. They've got good noses and they like to find things."

Time Kills

The most important thing in avalanche rescue work is speed. Only half the people buried in an avalanche can be expected to survive more than 30 minutes. The chances get worse as the clock ticks: One out of three people can be expected to survive more than one hour. Only one out of 10 after three hours.

If an avalanche dog can't find the buried person fast, the person will probably die. Sheila and Feliz Naughty Dog are very fast. When CONTACT's reporter was buried in a practice drill, the dogs took only six minutes and three seconds to find her. This included the four minutes it took for the dogs to cover the 1.5 miles between Ski Patrol headquarters and the practice avalanche site. Amazing! ➔



PHOTOS © R.G. GETTY

The Nose Knows

Dogs rely on their keen sense of smell to find avalanche victims. Chat Campbell told CONTACT about a dog's sense of smell. "When you bend down and say 'Hi' to a dog, and she breathes on your face, you say, 'Oh no! Doggie breath!'"

"But a dog's olfactory (smelling) system is thousands of times more sensitive than any human's. So what do you think your breath smells like to a dog? She can smell the eggs you had for breakfast, the bologna you had for lunch, and the burger you ate for dinner."

There are two ways dogs use their noses to find people. A bloodhound follows the scent that people's clothing and bodies leave on bushes and the ground. Bloodhounds can find out where a person *has been*. But "tracking" is useless if someone doesn't leave a trail, when they're suddenly buried by an avalanche, for instance.

Some dogs can also locate where a person is by "air scenting." It's the way Sheila and Feliz find people buried by avalanches. Here's how it works:

A buried person's body heats the air next to the skin. The warm air picks up some of the molecules that escape from the oils on the skin. Those molecules are the scent of the person. Since hot air rises, the buried person's scent eventually reaches the snow's surface. From the surface, the scent enters the surrounding air. That's where Sheila and Feliz Naughty Dog smell it.

The Right Stuff

What makes a good avalanche dog? All kinds of dogs have been trained to be avalanche rescuers. But whatever the breed, "Before a dog can try out for avalanche rescue training, it has to know basic obedience commands," Rey Deveau told CONTACT.

"An avalanche rescue dog candidate has to already know, 'Come!' 'Sit!' 'Stay!' 'Down!' and of course, its own name. It has to be able to concentrate on what it's doing and it can't be stubborn." It also has to be very friendly.

Chuck Rose, the Taos Snow Safety Director, explained the basic program. "First off, the trainer hides and the dog learns to find him. Next, we bury the trainer in snow and have the dog find him. After that, we get the dog to find a stranger who is buried.

"For the first six months we usually work with

PHOTO © THE STOCK MARKET/TED GALLUCHI



Practice Makes Perfect

These photos show the dogs and their trainers performing a practice drill.



PHOTOS © ALPINE PHOTOGRAPHY

First the dogs and human rescuers race to the scene of the avalanche.

a dog for about 90 minutes each day. After that, as long as the dogs find people quickly, we only need to do practice burials once or twice a week."

Even with "wonderpaws," it's hard running in the snow. "We don't want to overwork the dogs. If we do, they'll be too tired when we really need them," Chuck Rose explains.

It's hard work but Sheila and Feliz Naughty Dog seem to enjoy it. "To the dogs, it's not a job, it's a game. What we do is play with the dogs. Finding someone buried in the snow is part of the game," says Rose. Game or not, the work Sheila and Feliz Naughty Dog do is vital.

So if you're ever near Taos Ski Valley, drop by Ski Patrol headquarters and say "Hi!" to the dogs. Perhaps you can even shake their paws as a thank you for saving human lives. 🐾

Left and Right: An avalanche may look something like a waterfall, but there is nothing gentle about tons of snow, ice and rock roaring down a mountain.



PHOTO © FPG INTERNATIONAL/ZIMMERMAN

Sheila and Feliz Naughty Dog locate trapped victims by picking up their scent.



After the dogs find the buried people, humans get to work removing the snow.

Here, a "victim" emerges from the hole.



PHOTO © R. G. GETTY

What's it like to be buried in an avalanche? A photographer took this picture to give us a better idea.



GET THE PICTURE

Kids Go to Pieces Over Jigsaw Puzzles

by Eric Weiner

A trumpeter blasts out the theme music from the Olympics. Armed with Walkman™ radios and snack food, 350 contestants take their places. The contestants include kids, parents, and grandparents. When the horn blares, they're off!

What sporting event is this? It's the National Jigsaw Puzzle Championship in Athens, Ohio. The first person to finish a 500-piece jigsaw puzzle wins \$1,000.

Pam Parker, who runs the contest, told CONTACT: "At first, all you hear is lots of clicking sounds as people snap in puzzle pieces. Then, towards the end, everyone starts finishing and things get pretty wild. Contestants start jumping up screaming 'Jigsaw!'"

Puzzle Champ

Donna Klett, 16, of Stow, Ohio, put together "Z You Around," a 500-piece jigsaw puzzle of a zebra, in one hour, 49 minutes, and 29 seconds. That means that on average she put in one piece every 13 seconds. That was fast enough to give Donna her first national championship as the world's fastest puzzler.

"I've been doing jigsaw puzzles since I was five



Right: What do you call it when a bunch of raccoons hide in a hamburger? Mel Andringa—who made this jigsaw collage—calls it "Big Rac."

or six," Donna told CONTACT. "I wasn't good right away. But I practiced a lot. Over the summer I do about three puzzles a day."

Even with practice, few people can put together a jigsaw puzzle as quickly as Donna can. What makes people like Donna so fast? Dr. Betty Ford, a psychologist at Ohio University, has "puzzled" over that very question. Every August, she goes to the jigsaw championships to study people as they try to solve the puzzles.

"People who are good at jigsaw puzzles don't move their eyes around as much as they search for pieces," Dr. Ford told CONTACT. Instead, good puzzlers seem to be able to spot pieces out of the corner of their eye.

What interests Dr. Ford is that fast readers need this same skill. Looking at a line of words, fast readers can see a lot of the line at once. And someday, Dr. Ford hopes to do a study to see if doing jigsaw puzzles will help kids become faster readers!



PHOTO © 1986 BRIAN BLAUSCH

Above: And they're off! Doubles teams try to put it all together at the National Jigsaw Puzzle Championship.

Professor Puzzle

When Mel Andringa, an artist, was 10 years old, he received an old set of jigsaw puzzles. "They were dramatic puzzles of World War II airplanes with trails of smoke and signs saying 'rat-a-tat'—the sound of gunfire," Mr. Andringa remembers.

What he discovered was that the puzzles, which were all made by the same company, all used the same pattern of pieces. "So I found that by taking pieces from one puzzle and swapping them with pieces of the other puzzle, I could make incredible mid-air collisions."

As a grown-up artist, Mr. Andringa started buying up batches of used puzzles, and looking for puzzles with the same patterns of pieces. Now he glues and frames his jigsaw collages—and sells them.

How do you find two puzzles with the same pieces? "First check to see if the puzzles are made by the same company," advises Mr. Andringa. "Then check to see if they have the same number of pieces and are the same size."

Next find the corner pieces of one puzzle and check them against the corner pieces of the other. If they match, you've got two identical puzzles. You're ready to make a jigsaw collage.

Wearing clothes that are painted in jigsaw puzzle patterns, Mr. Andringa gives talks about jigsaw puzzle history. He calls himself "Professor Puzzle."

Jigsaw puzzles were invented by John Spillsbury, a mapmaker, in the 1760's. "The 1860's ➔



PHOTOS © MEL ANDRINGA



were a turning point for jigsaw puzzles," Mr. Andringa told CONTACT. "That's when cardboard was invented."

Up until then, jigsaw puzzles were cut out of wood with a jigsaw—a narrow saw that's good for cutting curves. The pieces of the puzzle were cut out one at a time. That took a long time and cost a lot of money. Today, by using cardboard, puzzle-makers can cut out hundreds of pieces at once.

How? They stamp the cardboard with a "die-cut." The die-cut works like a giant cookie-cutter.

Shmuzzles!

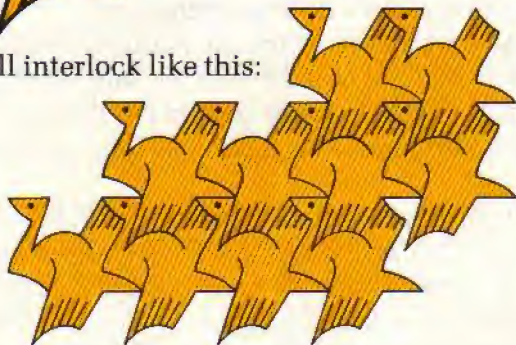
Imagine a wall covered with salamanders. The salamanders interlock, leaving no air space in between heads, tails, and legs.

That's a Shmuzzle™, a special kind of jigsaw puzzle invented by Sam Savage, a mathematician. In a Shmuzzle, the trick is to piece together

the salamanders to make different shapes: such as a "shmi-angle" (a triangle), a "shmiral" (a spiral), or a "shmoflake." To see how this works, trace this bird four times. Carefully cut out all four birds.



It will interlock like this:



Want to create your own interlocking creature? It's tricky, but here's one way to do it: Draw a square. Now add a shape to the square. Whatever shape you add, you have to remove the same shape from the opposite side of the square. Like this:



Above: In this Shmuzzle™ puzzle, all 168 pieces are identical—and they're all salamanders.

Interlocking birds and salamanders aren't just newfangled jigsaw puzzles. They're a part of mathematics called "tiling." To a mathematician, tiling is the study of how shapes—a salamander shape, for instance—can be used to completely cover an area.


Believe it or not, studying interlocking shapes can be very important. A few years ago, scientists were trying to figure out how the atoms—the tiniest parts—of a certain crystal went together. They found the answer by using the tiling theories of a famous mathematician named Roger Penrose.

Penrose figured out some nifty ways for strange shapes to interlock. The atoms of the crystal turned out to interlock in similar ways.

Puzzle Mania

One thing is clear about jigsaw puzzles. They can be habit-forming.

Nancy Polstein, 12, does jigsaw puzzles constantly. "When I get bored," she told CONTACT, "I turn the puzzles over and do them just by the backs, without looking at the picture."

Right about now, you're probably in the mood to do a jigsaw puzzle or two yourself. Be careful not to get hooked, though. Unless you're sure you can, um, "snap" out of it! 



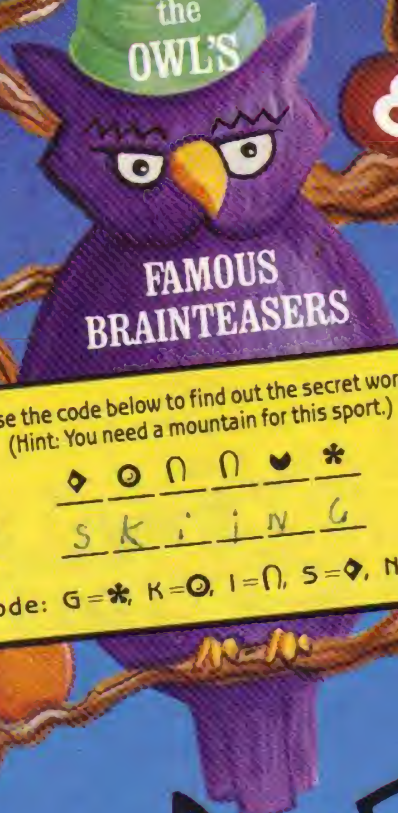
Above: Said to be the world's smallest jigsaw puzzle, it takes a tweezers to put together Mickey's 143 pieces. (Shown here actual size.)

Right: Professor Puzzle, Mel Andringa, swapped pieces from two puzzles and hid Mickey Mouse in this black and white pattern.



Left: Did you ever hear a cookie meow? Mel Andringa used two jigsaw puzzles to make this "kooky" collage.

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FAMOUS
BRAINTEASERS

Use the code below to find out the secret word.
(Hint: You need a mountain for this sport.)

◆ ○ ∩ ∩ ♥ *
s k i n g

Code: G = *, K = ○, I = ∩, S = ◆, N = ♥



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CRAZY WORDS

All the words in the word hunt are names of things you wear. After you find all the words in the word list, unscramble the remaining letters to find this month's secret word.

S H O E S P
C A P W W A
A T O B E N
R A C O A T
F M N O T S
M I T T E N
S S H I R T

Word List

Shirt	Pants
Boot	Scarf
Cap	Shoes
Coat	Tam
Sweater	
Mitten	
Hat	

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- While skating backwards at the ice rink.
- At the bottom of the hill, right after a sled ride.
- Inside a snow fort.
- Holiday shopping at the mall.

LETTERMANIA

The letters in the tree are all mixed up. Can you put them in the right order?

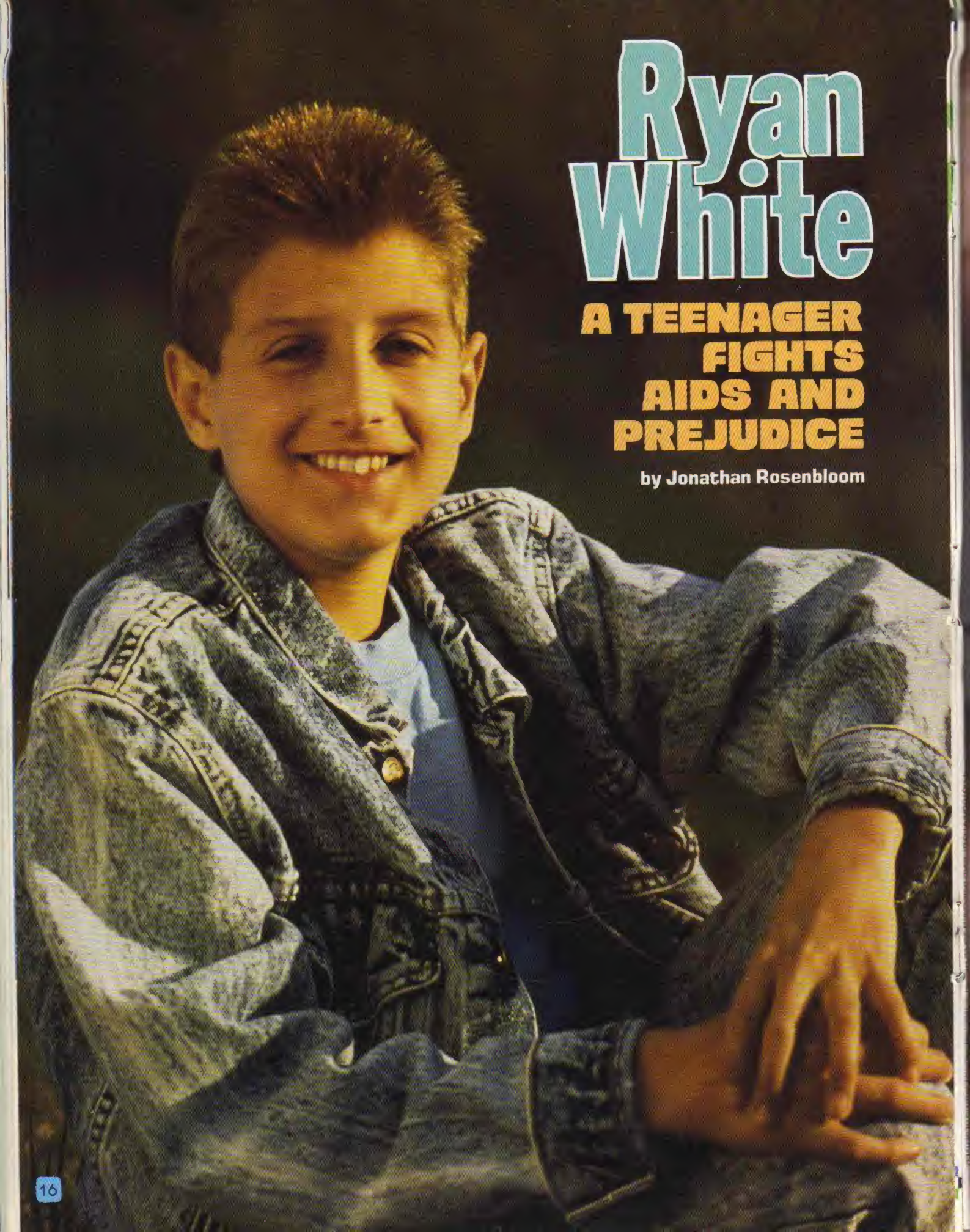
FACTOSAURUS

PSITTACOSAURUS (SIT-uh-ko-sawr-us)
The smallest dinosaur ever found was a baby Psittacosaurus. It was about half the size of a pigeon. Psittacosaurus is Greek for "parrot lizard." This vegetable-eating dinosaur couldn't fly like a bird but it did have jaws and a head shaped just like a parrot's.

Smilin' Sam's Joke-O-Rama

What is red and white and red and white and red?

ANSWERS:
Sid the Owl's Famous Brainteasers: SKIING
Lettermania: SNOWMAN
Smilin' Sam's Joke-O-Rama: Santa Claus
eating a Cherry Fun Fruit.
Crazy Words: SNOW



Ryan White

**A TEENAGER
FIGHTS
AIDS AND
PREJUDICE**

by Jonathan Rosenbloom

Ryan White loves skateboarding, snacking on junk food and hanging out with his friends from high school. The bedroom of his Cicero, Indiana, home is plastered with posters of Max Headroom, Huey Lewis and the News, and the Batman. At night, Ryan does his homework, talks on the phone, and watches TV. His favorite programs? "Who's the Boss?" and "Growing Pains."

In most ways, Ryan, who is 16, is like any other teenager. But in one extraordinary way, he is very different. Ryan has AIDS—a deadly disease for which there is no known cure.

AIDS, which was first discovered by doctors in 1981, attacks the body's immune system. The virus breaks down a person's ability to fight off diseases and infections. In the U.S., some 70,000 people have AIDS. About 1,000 of these people are children under the age of 13.

What Causes AIDS?

AIDS is spread in the following ways:

"If someone has the AIDS virus, he or she could pass it during sexual contact," says Marilyn Auerbach, a professor of public health in New York City.

Some babies are born with AIDS because their mothers carried the virus. The virus is passed from mother to child in the womb.

And as Ryan White now knows, there is another way to get AIDS: through the exchange of blood. Many drug users who share needles get the virus in this way. "I'm not a drug user," Ryan White told CONTACT. "I wouldn't mess with that stuff."

"But I am a hemophiliac," he explained. That means Ryan's blood doesn't clot the way it's supposed to. When most people cut themselves, their blood clots and forms a scab. The body heals itself. But for someone like Ryan, a cut could be very serious. He could keep on bleeding.

So from time to time, healthy blood was given to Ryan to make his own blood stronger.

When Ryan was 12, he had a blood transfusion. Back then, the blood supply was not tested for the AIDS virus. Ryan was given some blood that had the virus. Now, four years later, he has AIDS.

"Today, the blood supply is safe," Ryan explains. "Blood banks test all blood that is given to them. If the AIDS virus is found in the blood, it isn't used. So there is nothing to worry about."

Living with Changes

Since Ryan came down with AIDS his life has changed in many ways. Every four hours, ➡

Right: Ryan White's bedroom is filled with posters, toys, models and a computer. His favorite place to do homework: sprawled on the bed.



around the clock, he takes AZT, a drug that is helping to lengthen the lives of people with AIDS. He tires easily and has to rest more than most 16 year olds. And he is no stranger to hospitals. Last January, Ryan got pneumonia and almost died. But when CONTACT spoke to him, he was feeling great and was dashing off to buy a new skateboard.

A Town Without Pity

Before he moved to Cicero last year, Ryan and his mother and sister lived in another Indiana city. When some of the people there found out that Ryan had AIDS, they began to treat him as if he were a deadly weapon.

"A lot of people would back away from me on the street," Ryan recalls. "They'd run from me. Maybe I would have been afraid of someone with AIDS too, but I wouldn't have been mean about it."

Life for the White family turned into a daily routine of being called names and being attacked. Someone slashed the tires of the family car. People pelted it with eggs. They called Ryan cruel names. Ryan was kicked out of school because he had AIDS. Then someone shot a bullet through the White's living room window.

Jeanne White, Ryan's mother, knew her family had to find a place where they could live in peace and quiet. They had to find a place where they would be welcomed and treated the way

Below: Ryan's favorite subject in school is algebra. The girl in the photo is Heather McNew, Ryan's best friend.



Above: Ryan White meets with kids to talk about AIDS. Here he visits with students at P.S. 87 in New York City.

they would treat others. "Where we could just be normal people," Mrs. White said.

For Ryan, "The worst part was that I had no friends," he remembers sadly. "I was lonely. All I wanted was to go to school and fit in."

Welcome Home!

So Mrs. White moved the family to Cicero, a town of about 9,000 people. By the time they got there, everyone knew of their arrival. And the residents of Cicero helped Ryan fit in and feel welcome right away.

The students at Ryan's new school, Hamilton Heights High, can take a lot of credit for this. "We wanted Ryan to be comfortable," says Eric Howell, a senior at the school.

"We felt he shouldn't be treated the way he was in his old school," says Jill Stewart, a classmate and friend of Ryan's. "So we had an AIDS education week."

Before Ryan arrived at school, every student took a two-hour class on AIDS. They quickly learned that they wouldn't catch AIDS by sitting next to Ryan, sharing a book or eating with him in the cafeteria.

"I was welcomed with open arms. The kids at

school are great. And they learned they had nothing to be afraid of by being near me," Ryan told CONTACT.

When the Hamilton Heights High students understood about AIDS, they started a campaign to educate their families about the disease. "We went home and told our parents about AIDS," says Billy Beechler, a classmate of Ryan. "Now everyone here knows about it." And people aren't afraid of Ryan.

His friend Mark agrees. He and Billy started to rattle off how you *can't* get AIDS. "You can't get it by sticking your french fries into the ketchup on Ryan's plate. You can't get it by using the same water fountain. You can't get it by sitting next to Ryan in class. You can't get it by using the same restroom or sitting next to someone in the movies, at a restaurant, or anywhere. It's unlikely that you'll get AIDS by sharing a can of soda-pop. You can't catch AIDS by hugging. And you can't catch AIDS by kissing someone on the cheek."

Below: Families in Cicero made the Whites feel welcome and at home. "People have been so nice to me," says Ryan.




Fighting for People

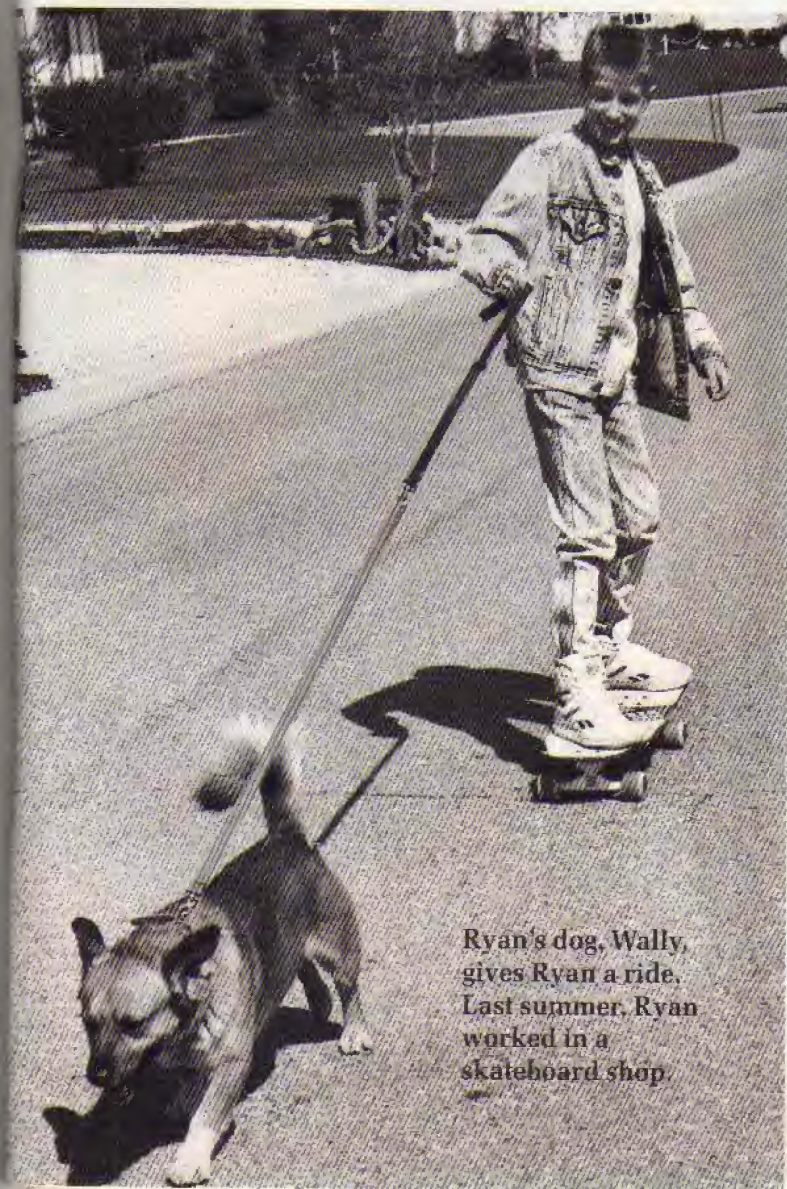
Since Ryan came down with AIDS, he has been a fighter for people with the virus. "I've been talking to groups about what it's like," Ryan told us. "I helped make a '3-2-1 Contact' TV program on AIDS. And I even spoke to the President's Commission on AIDS."

The Commission listened to Ryan and other people with AIDS, as well as doctors and researchers. The Commission has asked the U.S. government to spend a lot more money on fighting the virus. And the Commission has suggested that laws be passed to help protect people with AIDS from being kicked out of school, losing their jobs and losing their homes.

Ryan was pleased to hear the Commission's suggestions. He remembers how he and his family were treated before they moved to Cicero. "A lot of people are afraid of folks who have AIDS," he says.

"But if people educated themselves, they'd know they have nothing to fear. I just want to be treated like a normal human being. All people with AIDS want to be treated with respect and dignity.

"And most of all," Ryan says, "I want everyone to understand that you can't blame AIDS on anyone. AIDS is nobody's fault." 



Ryan's dog, Wally, gives Ryan a ride. Last summer, Ryan worked in a skateboard shop.

Colgate

HOW TO PLAY

PLACE GAME PIECES ON START.
ROLL DICE AND MOVE YOUR GAME
PIECE. IF YOU LAND ON A "TRUE
OR FALSE SQUARE," ANSWER THE
QUESTION, AND THEN CHECK YOUR
ANSWER. IF IT'S RIGHT, ROLL AGAIN.
IF NOT, YOUR FRIEND ROLLS. LAND
ON A "PICTURE SQUARE," AND
YOU LOSE A TURN. WHOEVER
REACHES THE END FIRST, WINS!

START

1. IF YOU EAT SWEETS,
IT'S IMPORTANT TO
BRUSH AFTERWARDS.

TORF

2. COLGATE JUNIOR WAS
DEVELOPED JUST FOR
KIDS.

TORF

3. YOU SHOULD BRUSH AT
LEAST TWICE A DAY.

TORF

YOU DIDN'T BRUSH
AFTER EATING
SWEETS! BACK 1 SPACE.

TORF

4. YOU DON'T HAVE TO
SEE YOUR DENTIST
REGULARLY IF YOU
BRUSH WITH A
FLUORIDE TOOTHPASTE.

TORF

5. A WORN-OUT
TOOTHBRUSH
CLEANS JUST AS
WELL AS A NEW ONE.

6. A GOOD DIET IS AS
IMPORTANT FOR YOUR
TEETH AS IT IS FOR
YOUR BODY.

TORF

oops!
YOU RAN OUT OF
TOOTHPASTE!
BACK 1 SPACE.



7. TOOTHPASTES HAVE
HAD FLUORIDE IN THEM
EVER SINCE THEY
WERE INVENTED.

TORF

8. BRUSHING
REGULARLY WITH
COLGATE JUNIOR
CAN MEAN
EFFECTIVE CAVITY
PROTECTION FOR YOU.

TORF

9. COLGATE'S THE
NUMBER ONE
TOOTH PASTE.

YOU FOR
BRUSH &
BEDTIME
BACK 1 SP.



SIMPLY CUT DICE WITH SCISSORS.
FOLD ALL TABS ALONG DOTTED
LINE, THEN TAPE "1" TO TAB A, "2"
TO TAB B, AND "3" TO TAB C.
(NOW YOU'RE READY TO ROLL!)

ANSWERS

5. FALSE - THE OLDER IT IS, THE LESS WELL IT CLEANS.
6. TRUE - IT HELPS KEEP TEETH AS STRONG AND HEALTHY
AS YOUR BODY.
7. FALSE - FLUORIDE WAS DEVELOPED SOME TWENTY
YEARS LATER.
8. TRUE
9. TRUE
10. TRUE
11. TRUE

WILDING
T NIGHT
NTIST AT

Junior Presents

POW!

CONSEQUENCES!



10. THE COLGATE JUNIOR TOOTHBRUSH MAKES BRUSHING AS FUN AS IT IS EFFECTIVE.

11. COLGATE JUNIOR IS THE ONLY TOOTHPASTE THAT COMES OUT LOOKING LIKE A STAR.

YOU DIDN'T SEE YOUR DENTIST THIS YEAR! BACK 2 SPACES.

THE END

HEY KIDS! HERE'S A GAME JUST FOR YOU FROM THE TOOTHPASTE THAT'S JUST FOR YOU—COLGATE JUNIOR! AND GUESS WHAT? IF YOU SEND ME A TRUE-FALSE QUESTION ABOUT DENTAL CARE, I'LL SEND YOU A BRAND-NEW COLGATE JUNIOR T-SHIRT! SO YOU CAN BE A COLGATE SUPERSTAR, TOO! JUST REMEMBER TO INCLUDE YOUR NAME, ADDRESS, AND SIZE, AND MAIL TO ME, THE COLGATE SUPERSTAR, AT: P.O. BOX 1624, RIDGELY, MD 21681. GOOD LUCK, AND KEEP ON BRUSHING!

**WHILE SUPPLIES LAST.*

OFFER EXPIRES DEC '89.



- 1 • TRUE - BRUSHING KEEPS SUGARS FROM UP ON YOUR TEETH.
- 2 • TRUE - ONCE IN THE MORNING AND ONCE IN THE EVENING HELPS REMOVE PLAQUE EACH DAY.
- 3 • TRUE - FALSE - YOU SHOULD ALWAYS SEE YOUR DENTIST AT LEAST ONCE A YEAR.



Any Questions?

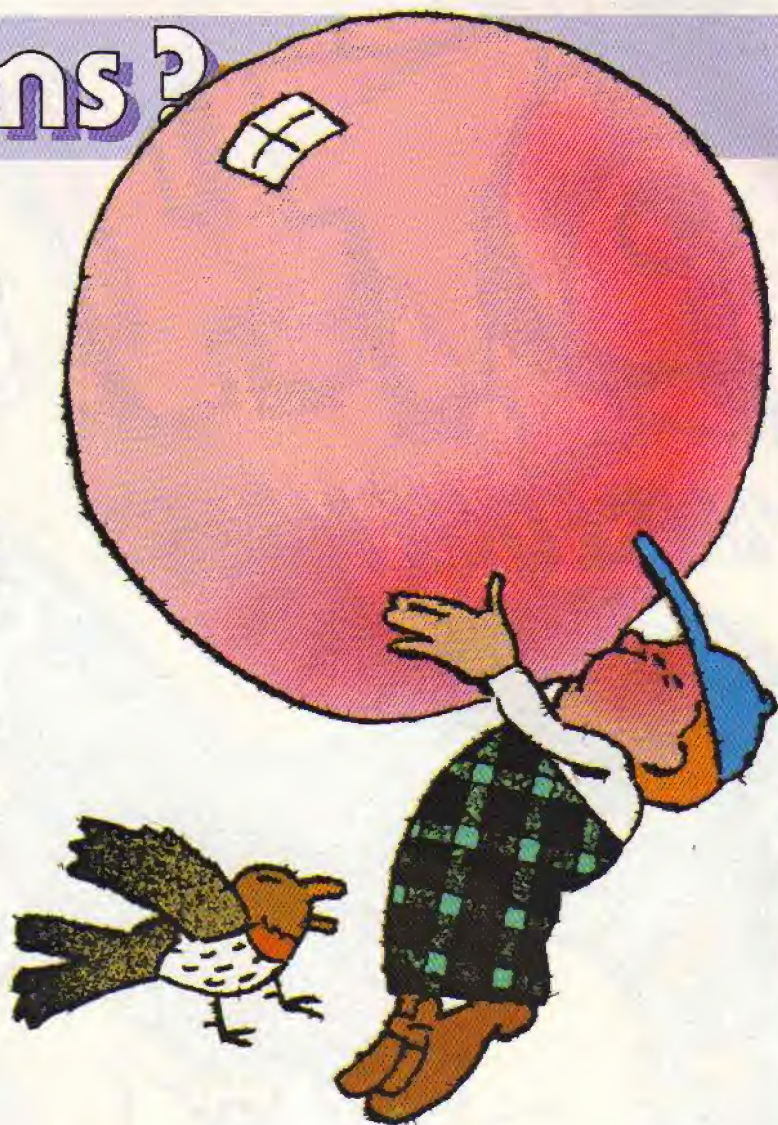
What holds gum together when you chew it?

When you chew an apple or a pretzel, it dissolves in your mouth. But no matter how long you chew a stick of gum, it stays in one piece. Long after the flavor is gone, you still have a lump of gum.

The thing that makes gum bounce back chew after chew is the gum base. This chewy stuff is made from many ingredients. One of the most important ones is something called *latex* (LAY-tecks). This gooey white liquid causes gum to behave the way it does. Saliva won't dissolve latex. Because it is stretchy, elastic material, latex can also stand up to the constant crunching of your teeth.

How elastic your gum is depends on which kinds of latex are in it. Bubble gum, for instance, contains rubber latex. The rubber gives the gum plenty of stretch. That's why, as long as your teeth and jaw hold out, you can blow bubble after bubble.

Question sent in by Ahree Lee, Hunt Valley, PA.



How does a broken bone heal?

Lucky for you, your body can repair itself. When you get a cut, new skin grows. And if you break your arm, new bone grows.

But before your bone gets the chance to fix itself, you need help from a doctor. First the bone is put back in the same position as it was before it broke. Then a cast is put on your arm. If the bone were to move, it wouldn't grow together in the right way.

Now your bone gets to work. Just like skin, bone is made of living cells. They live and die and can make new cells. When you break a bone, blood gathers at the broken ends and forms a clot. Along with the blood come special cells. Their job is to make new bone. From each end of the broken bone, new cells grow. They knit together, forming a net of new bone cells. In about six weeks the broken bone has been repaired.

The new bone is as thick and strong as the original bone. Your arm is as good as new.

Question sent in by Janet Siegel, Los Angeles, CA.

Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 40
Vernon, NJ 07462

Why aren't the letters on a typewriter in alphabetical order?

order? When the first typewriter was made over 100 years ago, the letters were in alphabetical order. But the bars on the machine that typed the letters kept banging into each other and getting stuck.

To solve the problem, typewriter inventor Christopher Sholes figured out which letters were used the most. Then he spread those letters out. In that way, the bars, or keys, inside the typewriter were less likely to get stuck together. The result was a typewriter with letters arranged the way you see them today.

With today's well-made typewriters, you don't have to worry about the keys getting stuck. So it's possible to make typewriters with keys that run from A to Z. But most people have learned to type with keys in the mixed-up order. So most typewriters still copy Christopher Sholes' keyboard. In fact, if you get the chance, look at the keyboard on a computer. Even these follow Sholes' pattern.

Question sent in by Juliet Garrison, Rochester, NY.



What are the northern lights?

Imagine a natural light show in the night sky. Long, thin rays of light form lovely, wavy patterns. Some of the light rays are white as frost. Others are green or red.

In the northern half of the world, this flickering sky show is called the *northern lights*. In the southern half it's called—what else?—the *southern lights*. The source of these light shows is the sun. It sends out electrical particles. They hit the layers of air that surround the earth. Areas near the earth's poles act as magnets and attract the particles. As the little bits move along, they bump into tiny particles of air. This causes that strange glowing in the sky.

At the North Pole, people might see this sky sight every few weeks. In Canada, you might see the lights a few times a year. Even people as far south as Mexico have reported seeing the northern lights. So keep watching!

Question sent in by Jennie Ring, Dayton, OH.



THE BLOODHOUND GANG

The Secret Santa Caper

by Becky Cheston



ILLUSTRATIONS BY BOB PEPPER

"Hey, Skip! Be careful with the tree!" yelled Ricardo as he walked through the office door, his arms loaded with Christmas decorations. Skip followed him, dragging along a small Christmas tree.

"Well, if it isn't Santa's elves," said Vikki, who was sitting behind the desk.

"Come on, Vikki," said Ricardo. "'Tis the season to be jolly!"

"Wrong," said Vikki. "'Tis the season to get cracking on a new case."

"What new case?" asked Skip. "Who's the client?"

"Ah," Vikki replied. "That's part of the mystery."

Video Pirates

Vikki explained that while Skip and Ricardo were out shopping, she had received a mysterious phone call.

"Hello?" the caller had said. The voice was muffled. "Is this the Bloodhound Gang?"

"Yes," Vikki replied. "What can we do for you?"

"I want to report a crime," the caller

continued. "I work at Video World. Someone here has been copying videos onto blank tapes, packaging them, and selling them. There's a whole shipment of them stored in—"

Suddenly, the caller stopped short. "Someone's coming! Just be at the store this afternoon. I'll leave you a message somewhere in the store."

"Wow!" said Skip when Vikki had finished her story. "A pirate video operation!"

"So, we go down to Video World and start looking for clues," said Ricardo. "What's our cover?"

"Fortunately," said Vikki, "we know someone who works there—Miranda Sanchez. We'll just say we're visiting a friend!"

One Messy Guy

"Now, this is what I call festive!" said Ricardo, looking around at the gaily decorated walls of Video World.

"Hi, you three!" said one of the salespeople. It was Miranda Sanchez. "It's good to see you!"

Miranda showed them around the store—the town's biggest video outlet. The walls were lined

with videos and movie posters. In opposite corners of the store, two TV monitors were displaying a holiday movie.

"We're getting ready for next week's Christmas party," said Miranda, pointing out the decorations. These included a large tree trimmed with ornaments made by Video World employees. There were papier-mâché birds, hand-painted angels, strings of popcorn, and four triangle-shaped ornaments sparkling with glitter.

"Here are some of the people I work with," said Miranda, introducing the Bloodhound Gang to two other teenagers, Adam Coyle and Celia Morello.

Quickly, Vikki took Miranda aside, explaining the real reason for their visit.

"You think the caller left you a message somewhere in the store? Where?" asked Miranda.

"Well," said Ricardo. "The logical thing would be to write down where the videos are and leave the piece of paper somewhere around here."

"Is there an office?" asked Vikki. "We could start by looking through stacks of loose papers."

"Sure," said Miranda. "Mr. Botolph, our manager, isn't here right now. So you'll have the place to yourselves."

Miranda led the trio to a back room and opened the door. Then she let out a gasp.

Inside the office, both file drawers were wide open, and papers were strewn all over the floor. The desk looked like a dumpster.

"Either Mr. Botolph is one messy guy," said Skip, "or I'd say our video culprit was here before us."

Secret Santa

As Vikki, Skip, and Ricardo searched through the piles of papers, Miranda tried to tidy things up.

"You know, I could be wrong," said Miranda, "but I thought I saw Adam in here about 15 minutes ago."

Sherman Botolph arrived just as the Bloodhound Gang was leaving the office, empty-handed.

"Well," said Vikki, "there was nothing in there that gave us a clue to where those tapes are stored. Either someone else got to the information before we did, or the message wasn't

there in the first place."

"You know, I've been thinking," said Ricardo. Out of the corner of his eye he could see Celia Morello glancing his way. "Maybe the message isn't on a piece of paper."

"Where else could it be?" asked Vikki.

"The videos!" Ricardo answered.

"The caller could have put his message on tape," said Vikki. "But there are thousands of videos here. Where do we begin to look?"

Ricardo walked to the wall behind the counter where the videos were stored in black boxes. "Maybe there's something on the outside of the box that might give us a clue."

"What are they doing behind here?" Adam Coyle asked Miranda suspiciously.

"I'm just showing them how things work around here," Miranda replied.

The Bloodhound Gang dropped their voices to a whisper and began looking through the tapes.

"Each video is tagged with a five-digit number," Miranda explained, "and the videos are filed in order, from lowest to highest."

"Hey!" said Skip in a loud whisper. "Look at these four tapes. They're out of order."

"So?" asked Miranda. "Someone got sloppy. It does happen."

"Look at the numbers," said Skip. "72416,



59782, 60057, 80291. It could be code."

"You're right!" Ricardo said loudly. He caught Celia eyeing him again and he lowered his voice. "We've cracked codes before."

"But it could take days," said Vikki. "What if those tapes really are just misfiled? Maybe we should go back to the office and hope our ➡

tipster calls again."

"Wait a minute," said Skip. "What's this?"

He was pointing to a small plastic bag on the counter. The bag was filled with white scraps of cardboard.

"Looks like garbage," offered Ricardo.

"Those are for our party next week," Miranda explained. "Later on today, we're all going to pick a name of someone else in the store. Then we get them a present. We call it 'Secret Santa.'"

"Hold it, everyone!" said Skip suddenly. "Look at this!"

Skip had been absent-mindedly fooling around with the scraps of cardboard. "These two pieces here are very odd-shaped—and they fit together, like so!"

"You're right," said Vikki quietly, looking at the assortment of shapes. "But keep your voice down."

Skip quietly moved the pieces out of sight onto a shelf behind the counter. Before long, he and Vikki had fit all the names together like a puzzle. It was complete, except for a large piece missing from its center.

"That doesn't mean anything," said Ricardo. "It's just a bunch of names."

Skip flipped the pieces over and put the pieces together again. This time, a message began to appear on the back of the puzzle.

"That's amazing!" said Ricardo. "But with that piece missing, I can't read what it says."

"Miranda," said Vikki. "Are all the names here? Could someone have accidentally taken one of the pieces away?"

Miranda flipped the pieces over again. "They're all here," she said.

"Well," said Skip. "Let's start looking for that piece. It shouldn't be too hard to find—it's shaped like a parallelogram."

The search was well underway when Vikki noticed Sherman Botolph removing some of the Christmas tree ornaments.

"I'll take those triangles, if you don't mind," she said, blocking his exit.

"But, Vikki," said Skip. "We're looking for a parallelogram."

"It seems that Mr. Botolph here knows his geometry," said Vikki, drawing a quick sketch. "If you put four equal triangles together like so, you get a parallelogram!"

Skip snatched up the four glitter-covered

ornaments and flipped them over. Sure enough, there were the missing bits of the message!

When Skip fit the pieces into the puzzle the message became clear: #38, 172 South Street.

"That's the big building with all the storage



ILLUSTRATION BY BOB PEPPER

lockers!" Ricardo exclaimed. "Vikki, call Detective Trowbridge and tell him we've located the video shipment—and the video thief!"

After Botolph had been led away, Adam Coyle introduced himself as the anonymous caller. "I wrote out the message on a piece of cardboard and left it behind the counter," he explained. "But someone used the other side for Secret Santa and cut it up into triangles. I wanted to tell you but I didn't have a chance."

"So some people hung their names on the tree just for fun," mused Vikki. "But perhaps you can clear up one remaining mystery. Why did you make a mess of the office?"

"Well," said Adam, "I knew where the video shipment was, but I didn't have any hard evidence linking Botolph with the crime. I thought maybe I'd find something in his files."

"We all thought the tipster might be Celia over there," said Skip. "She kept acting so strangely around us."

"You mean around Ricardo," said Vikki, as Celia finished with a customer and began heading their way. "Ricardo—why don't you stand over here for a moment?"

Vikki pushed him to a doorway. Hanging over the doorway was a sprig of mistletoe.

"Now, don't you look Christmasy!" said Skip.

"Yes!" said Vikki. "The colors of the season: Green for the mistletoe—and red for your face!"

Special

SQUARE ONE

Television

Section

TUNE IN TO SQUARE ONE TV ON YOUR LOCAL PBS STATION

STAR CROSSED

We've dreamed up a special gift for each of the stars below. Follow the silly guidelines in each star's box to figure out the *one* perfect gift for each of them.

Answers on the Did It! page.



ALF:
Give something
blue to Alf. Not
something to wear
and not something
that flies.



KIRK:
Give something
that flies to Kirk.
But it's got to have
feathers.



ROGER RABBIT:
Give Roger Rabbit
something that's
the same color as
Alf's. But it must
have wheels.



TEMPESTT:
Give Tempestt
something round
that doesn't
bounce.

SQUARE ONE LOONEY TUNES

SOLVE THESE MUSICAL RIDDLES

Single Cells

(Sing this to the tune of "Jingle Bells")

Splashing to and fro
Amoebas like to play
In a petri dish
Dividing once a day

I thought there were two
Nothing less or more
But I looked through the microscope
And counted up to four!

Oh...

Single cells
Single cells
See how they divide
There was one on Christmas day
But now it's multiplied.

Single cells
Single cells
Nothing much to do
But swim around a petri dish
Dividing into two.

Riddle: If there is one cell on the first day of Christmas, how many amoebas will there be on the *twelfth* day of Christmas?

Swiss Miss Symphony

(Sing to the tune of "The Twelve Days of Christmas")

On a swell day a Swiss Miss heard a symphony:

12 hummers humming,
Half as many drumming,
10 oboes squeaking,
1 conductor speaking,
6 fluglers flugling,
1/3 as many bugling,
8 girls play bongo,
5 bald men sing,
4 play harpsichord,
3 times that
play kazoo off-key.

And that's only half the orchestra you see.

Puzzle: How many people are playing in the entire orchestra? Add them up!

Answers on the Did It! page.

BLACKSTONE'S

Magic Page

Learn this trick and amaze your friends!

GUESS WHICH HAND HAS THE PENNY...IT WORKS EVERY TIME!

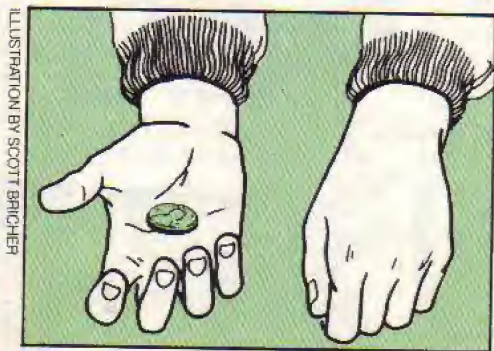
Okay, so you've probably played the old "guess which hand holds which coin" trick a million times. But chances are, you guessed right sometimes—and wrong other times. With this math trick, there's no more guesswork. You'll be right "on the money" every time!

YOU'LL NEED:

One penny, one dime, one friend

HOW TO DO THE TRICK:

1. Ask your friend to hide the penny in one fist and the dime in the other.



2. Ask your friend to multiply the value of the coin that is in the right hand by an even number that you choose: 2, 4, 6, 8 and so on. (*Hint:* The value of a penny equals 1. The value of a dime equals 10.) Ask your friend to multiply the value of the coin in the left hand by any odd number: 1, 3, 5, 7 and so on. Your friend should keep the answers secret.

3. Your friend should mentally add the two answers together. Now you ask whether the final number is even or odd.

4. If the number is even, the right hand holds the penny. If the number is odd, the penny is in the left.

CAN YOU SOLVE THIS MONTH'S **MATHNET PUZZLE?**

DOGNAPPED!

THIS STORY IS A FIB, BUT IT'S SHORT

STORY: ERIC WEINER

ART: KEITH WILSON

"KATE MONDAY OF MATHNET HERE. IT WAS DECEMBER IN L.A. AND IT WAS HOT..."

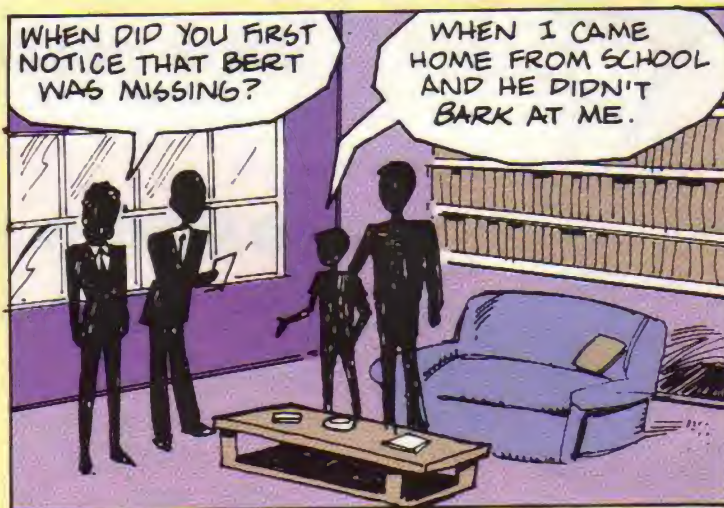
"NO CRIMES HAD BEEN REPORTED THAT WEEK. IT SEEMED TOO GOOD TO BE TRUE. IT WAS."

MATHNET! MATHNET! KIDNAPPING REPORTED ON LAFORTUNA STREET.

LET'S ROLL!

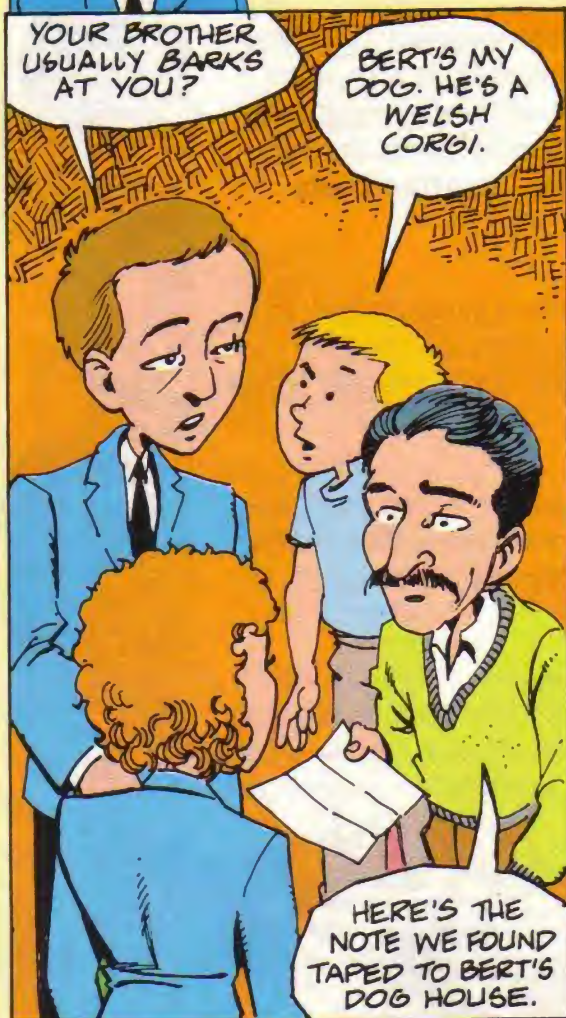
WHEN DID YOU FIRST NOTICE THAT BERT WAS MISSING?

WHEN I CAME HOME FROM SCHOOL AND HE DIDN'T BARK AT ME.

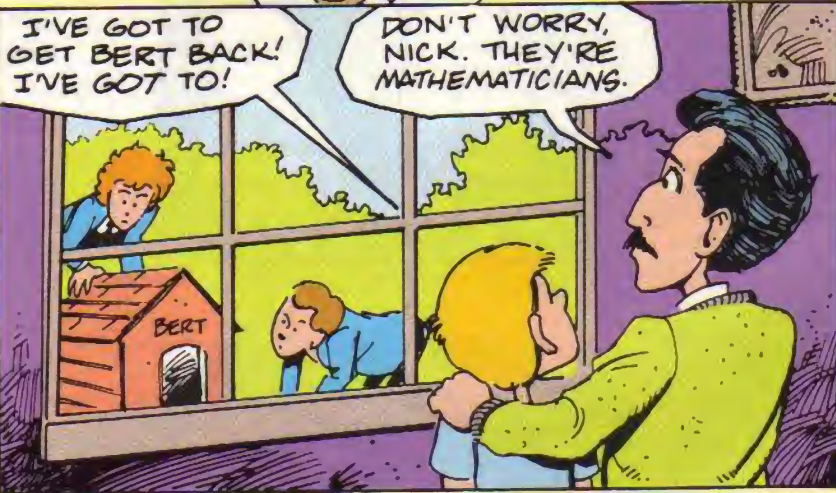


YOUR BROTHER USUALLY BARKS AT YOU?

BERT'S MY DOG. HE'S A WELSH CORGI.

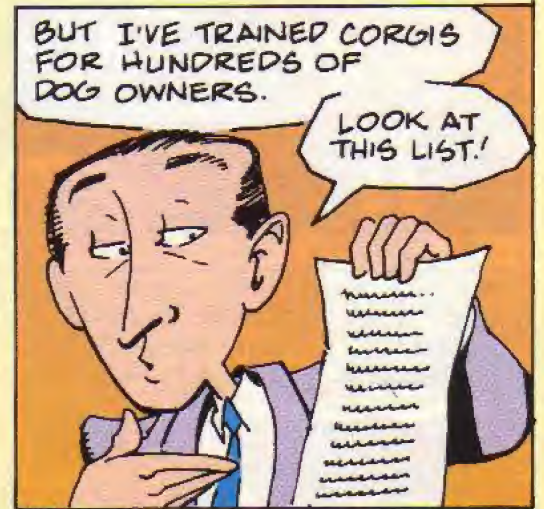


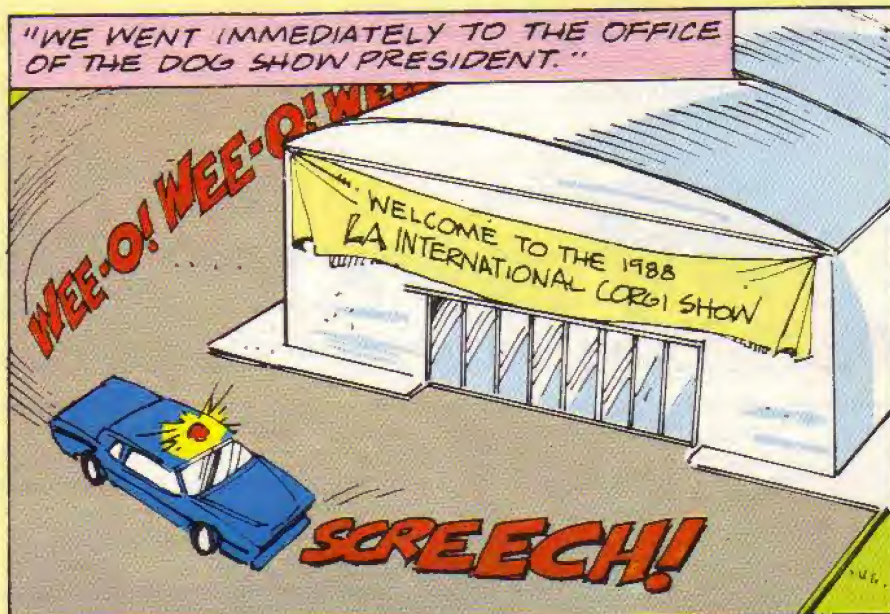
HERE'S THE NOTE WE FOUND TAPED TO BERT'S DOG HOUSE.



I'VE GOT TO GET BERT BACK! I'VE GOT TO!

DON'T WORRY, NICK. THEY'RE MATHEMATICIANS.





"WE KNEW THAT BERT HAD ONE BLACK EAR, ONE BROWN EAR, AND BROWN EYES. USING THAT INFORMATION, WE WERE ABLE TO QUICKLY NARROW THE LIST DOWN TO FIVE. ACCORDING TO THIS LIST THERE WAS ONLY ONE DRESSING ROOM..."

NAME	CHARACTERISTIC MARKINGS	EYES	DRESSING RM. NO.
"SAM"	ONE BROWN EAR	BLUE	211
"HUGO"	ONE BLACK EAR	GREEN	624
"SALLY"	ONE BROWN EAR	BROWN	106
"ROGER"	ONE BROWN EAR	BROWN	219
"SUE"	ONE BLACK EAR	BROWN	550

"... WORTH CHECKING OUT."



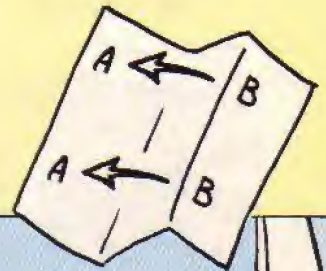
What will Marcy get for a holiday present?

Greetings! It's a special holiday...

Fold in like this so that 'B' meets 'A'.

SQUARE ONE FOLD-IN

Fold in to find out.



A ▶

I want an electric pogo stick, a hula hoop, 53 rubber monkeys, four pairs of socks, seven Super Sheila dolls, a Dr. Tony science set, 29 wall-whizzers and a glow-in-the-dark stable for my pony!

Okay, I'll buy you everything on that list that you can share evenly with your three sisters.

◀ B



A ▶

◀ B

DON'T WAIT UNTIL WE'RE SOLD OUT! SOON, ALL OF OUR RACKS WILL BE EMPTY!

Reviews

I'M
SUPPOSED
TO BE
SMART



Book

The Plant That Ate Dirty Socks

by Nancy McArthur
Avon Camelot Books, \$2.50

When Norman and his brother Michael receive some plant seeds in the mail, they don't give it much thought. That is, until the plants start to grow—and take over their room.

The boys soon discover that

their plants do more than just grow. They eat dirty socks, burp, and talk.

How can the boys keep their plants a secret? What do they tell Mom when she asks why their socks keep disappearing? And do Michael and Norman get out of a family vacation to Disney World in order to stay home with their pet plants?

Norman and Michael's wacky adventures will keep you laughing from beginning to end.
—Jonathan Rosenbloom

Software

Test Drive

For IBM, Commodore 64/128, Atari and Apple II computers.
Accolade, \$35

Here's a program that lets you try out five of the fastest cars in the world. Choose from a Ferrari, a Lamborghini, a Porsche, a Lotus or a Corvette. Then, go for a drive

along a winding mountain road. But it's no picnic. You have to look



out for potholes, puddles, hairpin curves and other reckless drivers who are blocking your path.

There's no winning or losing in *Test Drive*. But it takes a lot of skill to get to the end without crashing. The graphics are very good. And you can really tell that each car handles differently. If you're interested in sports cars, we think you'll want to take this program out for a spin.

—Russell Ginns

Game

The Stupid Game

TDC Games, Inc.
Glendale Heights, IL
\$8.50/Ages 8 to Adult

This game isn't really stupid. But it is very silly. Each person moves a playing piece around a board. Spaces on the board indicate when a player has to perform a stunt that can be found in "The Stupid Stunt Book" which is included with the game. It contains dozens and dozens of stunts.

Stunts include a whistling contest, tongue twisters, a "ha-ha" contest, and pretending to be a cocker spaniel who must say "woof woof" for an entire turn at play.

The *Stupid Game* may have a really dumb name, but we played it with some of our friends and really had fun. And it proved to us that sometimes you have to act stupid to be smart.

If you and your friends want to laugh, and if you don't mind being silly in

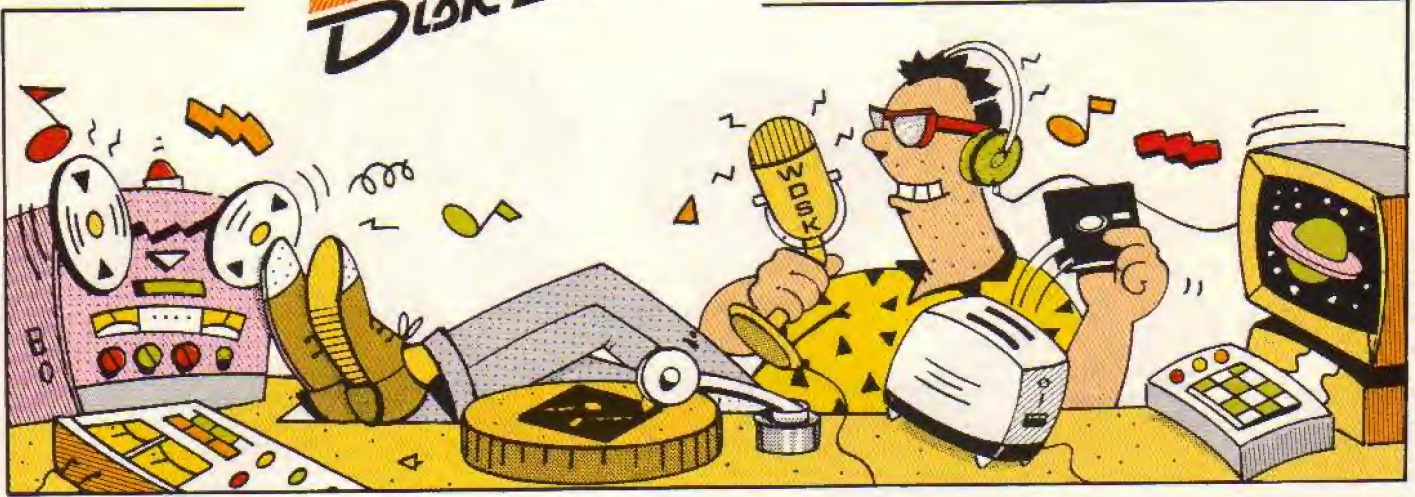
order to win a game, you might enjoy *The Stupid Game*.

—J.R.

I'M
SUPPOSED
TO BE
STUPID

THIS
END
UP

The Slipped Disk Show



Ho, ho, ho, hackers! And Happy Holidays to you! This is Slipped Disk, world-famous computer expert, coming at you with a whole bag of gift-wrapped computer questions and answers.

Speaking of gift-wrapping and computers, my dog, Floppy, says he used his computer to write a long list of presents he's getting for me this year. Last year he bought me a swell food dish and a rubber bone. They were nice, but this year I hope I get something made for humans.

Of course, it's better to give than to receive. So while I'm waiting to receive, I'll give an answer to our first question, which is from **Stormie Schott**, 11, of North Richland Hills, Texas. Stormie asks:

"Why do some floppy disks have a square notch in the corner and others have a sticker there?"

Stormie, for a world-famous computer expert like myself, answering questions like yours just comes notcherly, uh, that is, naturally. That square piece that is missing from your floppy disk is called the "write-protect notch." It allows you to protect the information on your floppy disk.

The way it works is very simple.

If you put a piece of tape or a sticker over the notch, then your disk drive will not be able to write or record any new information on that disk. You'll still be able to read data stored there or load programs that are on the disk, but you won't be able to change anything that is there. This is one way of protecting data on your disks from being accidentally erased.

And speaking of disks, let's continue the disk-cussion with our next question, which is from **Jason Rider**, of Ferryville, Wisconsin. Jason asks:

"When I use a game disk on my computer, why does it take so long for the picture to come on the screen?"

We think of computers as being very fast machines, and they are. They can calculate a long math problem in a fraction of a second. That's because a lot of the work of a computer is done electronically. When your computer adds a long column of numbers, no mechanical parts move inside your computer. The only things that move around are currents of electricity, which travel at incredibly high speeds.

But when you put a game disk

into your disk drive, several things happen that take time. First, the disk has to spin to the correct place. Then the head in the drive has to travel in or out until it is over the right spot. (The head is the part of the disk drive that "reads" or "writes" information on the disk.) These mechanical parts travel much more slowly than the electric currents in a microchip.

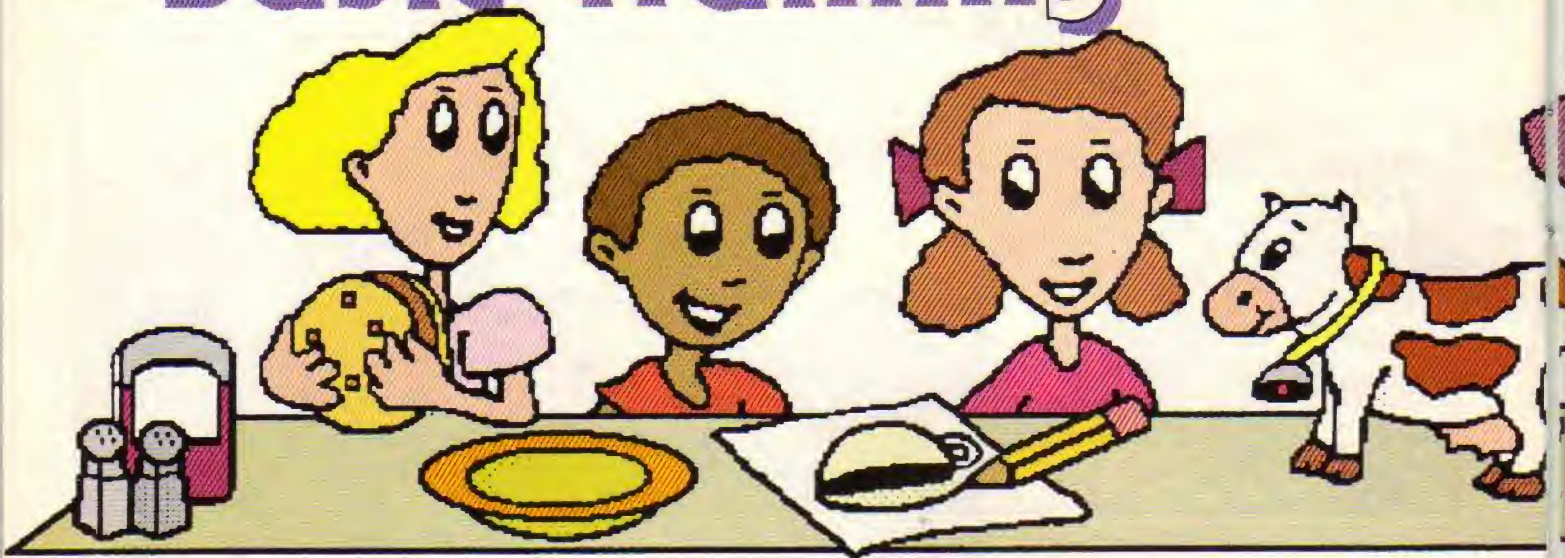
Most game programs are very long and the disk and the head have to move again and again until all the information is read and loaded into your computer's memory. Not only that, the electronic connection between the disk drive and the computer's memory can only handle a few bits of information at a time. Although each bit may travel in a tiny fraction of a second, those fractions add up if you are loading a very long program. It may seem like forever!

Oh, well, you don't have to wait forever to send in your computer questions. Just mail them to:

The Slipped Disk Show
3-2-1 CONTACT Magazine
1 Lincoln Plaza
New York, NY 10023
Happy Holidays!

Slipped Disk still believes in Santa Claus, no matter what Floppy says.

Basic Training



Lunch Counter Lingo

What do you do when someone says, "Give me a small cow, a bowl of fire and a bucket of mud?" You could lasso a cow, put some burning charcoal in a dish and scoop some wet dirt into a bucket. But if you're a short-order cook, you serve up a glass of milk, a bowl of chili and a dish of chocolate ice cream.

In diners and at many lunch counters, waiters and waitresses have their own slang or lingo. It's a kind of code they use to tell the cook what the customers have ordered. For example, instead of saying, "One cup of coffee," they say, "Draw one!" And a hamburger to go is called a "burger on wheels."

In this game, you are a waiter or waitress in a diner. Your job is to remember all the orders of the customers and relay them to the cook. The problem is you only have 10 seconds to memorize them.

Then you have to type in each item, in the order they appeared. When you have typed in eight items, the computer will tell you how you did and give you the chance to play again. In between each round, you can study the list of

slang words and what they mean.

The program is written for Apple II computers. Following it are instructions for adapting it for the IBM and Commodore 64.

Lunch Counter was adapted from a program sent in by **Tim Knapp**, 11, and **Sean McVeigh**, also 11, of Ancaster, Ontario, Canada. Thanks, Tim and Sean, for helping us come up with this delicious program. We think it's more fun than a bucket of mud!

Apple II

```

10 REM LUNCH COUNTER
20 DIM L$(15),G$(15),G1$(15),
   M$(8),N$(8)
30 FOR X = 1 TO 12
40 READ A$:L$(X) = A$
50 READ A$:G$(X) = A$
60 NEXT X
70 REM GAME LOOP
80 HOME: PRINT "LUNCH
   COUNTER"
90 PRINT: PRINT "DO YOU WANT
   TO:"
100 PRINT "(1) START WORK?"
110 PRINT "(2) STUDY YOUR
   LINGO?"
120 PRINT "(3) QUIT"
130 PRINT: PRINT "CHOOSE ONE
   BY NUMBER"
140 GET A$: IF A$ = "2" THEN 540
150 IF A$ = "3" THEN 530
    
```

```

160 REM GET ORDERS
170 HOME
180 FOR X = 1 TO 12
190 G1$(X) = "": NEXT X
200 FOR X = 1 TO 8
210 I = INT (RND (1) * 12) + 1
220 IF G1$(I) = "X" THEN 210
230 M$(X) = L$(I)
240 G1$(I) = "X": NEXT X
250 PRINT "HERE ARE THE
   ORDERS:"
260 PRINT: PRINT "YOU HAVE 10
   SECONDS"
270 PRINT
280 FOR X = 1 TO 8: PRINT M$(X):
   NEXT
290 FOR I = 9 TO 0 STEP -1
300 FOR DE = 1 TO 850: NEXT DE
310 PRINT CHR$(7)
320 VTAB 3: HTAB 10
330 PRINT " "; I: NEXT I
340 HOME
350 PRINT "THE COOK IS
   WAITING."
360 PRINT "WHAT ARE THE
   ORDERS?"
370 PRINT "TYPE IN ONE ITEM AT
   A TIME."
380 PRINT "THEN PRESS RETURN":
   PRINT
390 FOR I = 1 TO 8
400 INPUT N$(I): NEXT I
410 HOME: PRINT "THE ORDERS":
420 HTAB 20: PRINT "YOUR LIST"
430 S = 0: PRINT
440 FOR I = 1 TO 8
450 IF M$(I) = N$(I) THEN S = S + 1
460 PRINT M$(I);
470 HTAB 20: PRINT N$(I): NEXT I
    
```

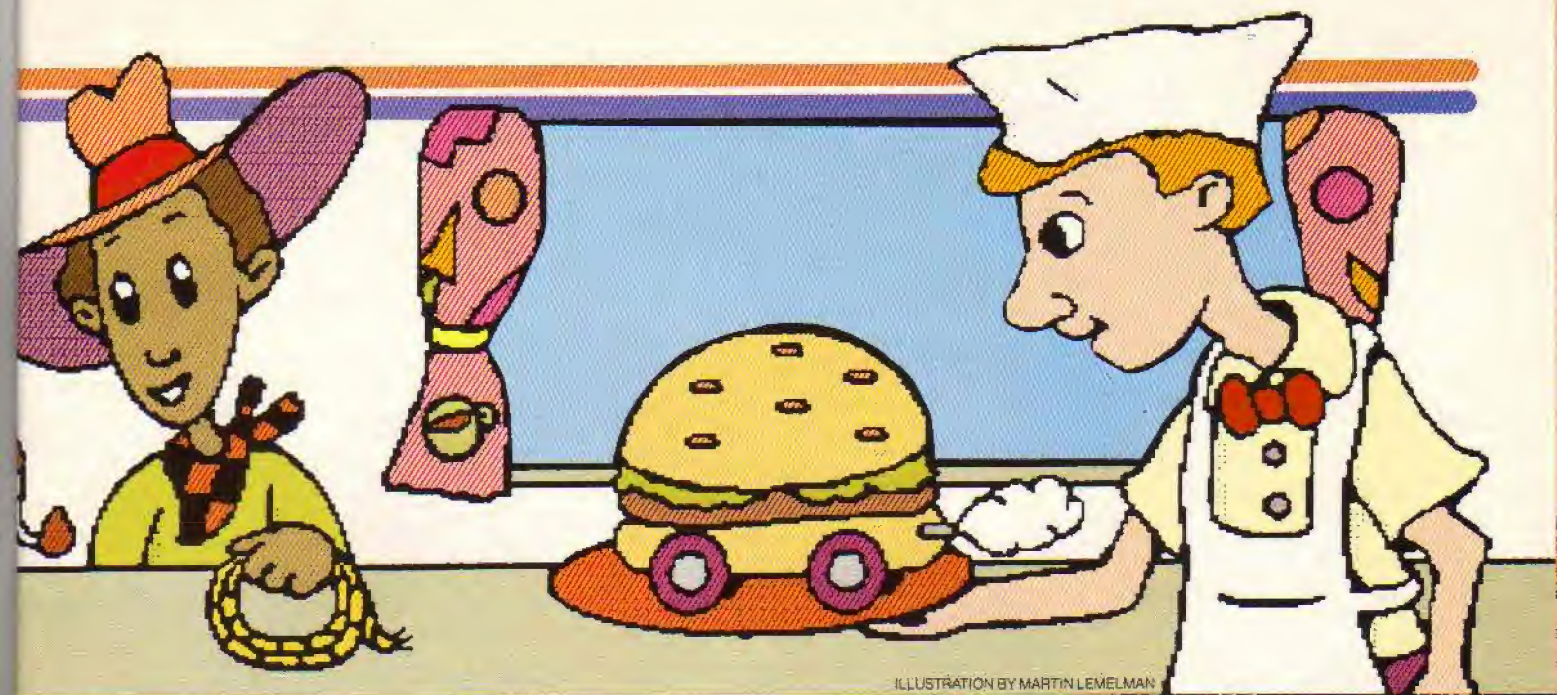



ILLUSTRATION BY MARTIN LEMELMAN

```

480 PRINT: PRINT "YOUR SCORE:"
;S;" OUT OF 8"
490 IF S > 6 GOTO 510
500 PRINT "TRY AGAIN": GOTO 90
510 PRINT "GOOD WORK"
520 GOTO 90
530 PRINT "BYE": END
540 HOME
550 PRINT "LUNCH COUNTER
LINGO"
560 PRINT
570 FOR X = 1 TO 12
580 PRINT L$(X);G$(X)
590 NEXT X: PRINT
600 PRINT "WHEN DONE, PRESS
ANY KEY"
610 GET A$: GOTO 70
620 DATA BUCKET OF MUD, —
CHOCOLATE ICE CREAM
630 DATA SMALL COW, —GLASS
OF MILK
640 DATA SUDS NO HAIL, —ROOT
BEER NO ICE
650 DATA BURN A BURGER, —
WELL-DONE BURGER
660 DATA DRAW ONE, —CUP OF
COFFEE
670 DATA ADAM AND EVE, —
POACHED EGGS
680 DATA RADIO, —TOASTED
TUNA SANDWICH
690 DATA BLT, —BACON LETTUCE
AND TOMATO
700 DATA BURGER ON WHEELS, —
BURGER TO GO
710 DATA CHINA, —CUP OF TEA
720 DATA STACK, —HOTCAKES
730 DATA BOWL OF FIRE, —BOWL
OF CHILI

```

```

740 DATA CB DOWN, —CORNEO
BEEF ON TOAST

```

IDM

Replace or add these lines:

```

15 SOUND ON
80 CLS:PRINT "LUNCH COUNTER"
140 A$ = INKEY$:IF A$ = "" THEN
140
145 IF A$ = "" THEN 540
170 CLS
310 SOUND 523,18.5
320 LOCATE 3,9
340 CLS
410 CLS:PRINT "THE ORDERS";
420 LOCATE 1,20:PRINT "YOUR
LIST"
470 LOCATE I + 2,20
475 PRINT N$(I):NEXT I
540 CLS
610 A$ = INKEY$:IF A$ = "" THEN
610
615 GOTO 70

```

```

140 GET A$:IF A$ = "" THEN 140
145 IF A$ = "2" THEN 540
170 PRINT CHR$(147)
310 REM
320 REM
330 REM
340 PRINT CHR$(147)
410 PRINT CHR$(147):PRINT "THE
ORDERS", "YOUR LIST"
420 REM
460 PRINT M$(I),N$(I)
470 NEXT I
540 PRINT CHR$(147)
610 GET A$:IF A$ = "" THEN 610
615 GOTO 70

```

Send Us Your Programs

If you've written a program you'd like us to print, send it in. Include a note telling us your name, address, age, T-shirt size and type of computer. If we like it, we'll print it and send you \$25.

All programs must be your own original work. We cannot return programs. Please do not send disks.

Send your program to:
Basic Training
3-2-1 CONTACT Magazine
1 Lincoln Plaza
New York, N.Y. 10023

Commodore 64/128

Add or replace these lines:

```

80 PRINT CHR$(147):PRINT
LUNCH COUNTER"

```


Extra!

by Russell Ginns

Look out! Here comes Extra! with two pages of extra fun!

Snow Business

Garth and Erika are CONTACT's very own rescue dogs. But they're not as skillful as the ones you read about in this issue. They left their kennel to build an igloo. Now they're stuck in the snow! Can you find a path to help them get back to the kennel?

Answer on the Did It! page.



Winter Word Search

There are 16 things that have to do with winter hidden in this word search. Can you find them all? Words go up, down, across and backwards. Use our word list. When you're done, the leftover letters will spell one more thing that could help you stay warm.

Turn to the Did It! page for the answer. Brrrr!

L N A G G O B O T F O
E A N S C A R F G I G
A M M I T T E N S R A
R W I C I C L E I E L
M O T S O R F U G P O
U N N D S K I S L L S
F S H O T C O C O A H
F L H S U L S E O C E
S E R W E S K A T E S
A D D R A Z Z I L B R

BLIZZARD
EARMUFFS
FIREPLACE
FROST
GALOSHES
HOT COCOA
ICICLE
IGLOO
MITTENS
SCARF
SKATES
SKIS
SLED
SLUSH
SNOWMAN
TOBOGGAN

Who's This?

Here's a picture puzzle of someone famous. But a few of the pieces are missing! Do you know who this is? Write and tell us. The first five correct answers we receive will win CONTACT T-shirts.

Send your answer, your name, address and T-shirt size to: **3-2-1 Contact: Who's This?**
P.O. Box 40
Vernon, NJ 07472

ILLUSTRATIONS BY RICHARD BRESS

Did It!

Star Crossed

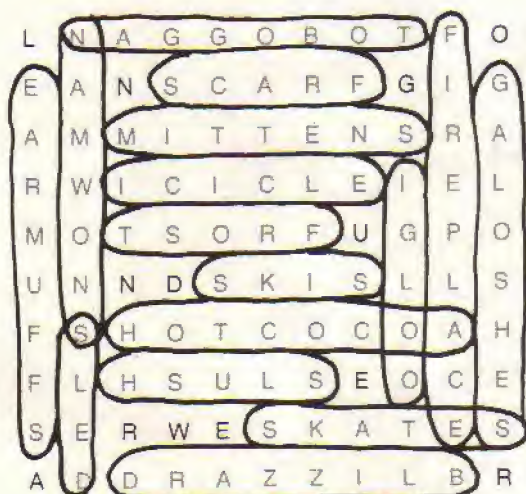
Alf gets the blue elephant.
Kirk gets the parakeet.
Roger Rabbit gets the blue roller skates.
Tempestt gets the globe.

Looney Tunes

Single Cells **Swiss Miss Symphony**
2048 amoebas 132 people

Extra!

Winter Word Search



Answer: Long underwear

Next Month!

Reaching New Heights

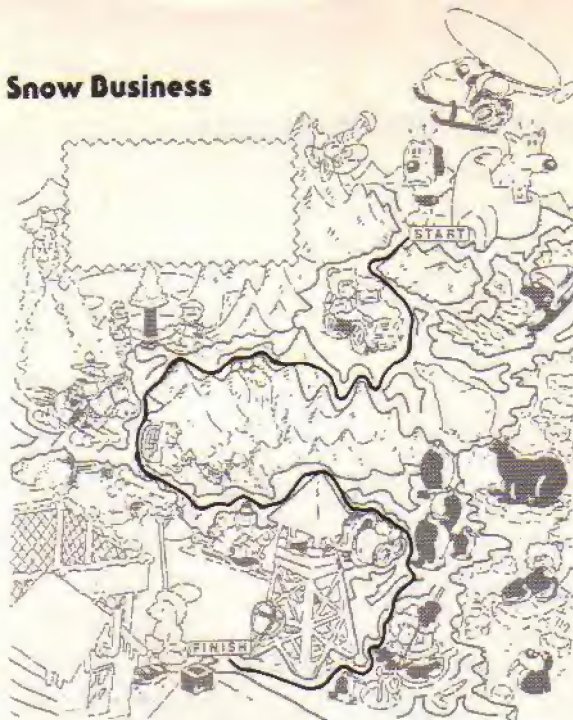
Why would anyone want to risk their lives to climb a 20,000-foot mountain?

Everybody's Doing It!

Hula Hoops and Wall Walkers ... why do some objects catch on with the public—and become fads?

Plus Much, Much more!

Snow Business



Mathnet

Only Roger, in dressing room #219, exactly matches Bert's description. Sally and Sue are the wrong sex.

STATEMENT OF OWNERSHIP MANAGEMENT AND CIRCULATION REQUIRED BY THE ACT OF AUGUST 12, 1970: SECTION 3685, TITLE 39, UNITED STATES CODE

- 1A. Title of Publication: 3-2-1 CONTACT MAGAZINE
- 1B. Publication number: 000-594
2. Date of Filing: September 31, 1986
3. Frequency of Issue: Monthly except for February and August
- 3A. No. of Issues Published Annually: 10
- 3B. Annual Subscription Price: \$13.97
4. Complete Mailing Address of Known Office of Publication: One Lincoln Plaza, New York, NY 10023
5. Complete Mailing Address of the Headquarters of General Business Offices of the Publisher: One Lincoln Plaza, New York, NY 10023
6. Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor: Publisher: Nina B. Link, One Lincoln Plaza, New York, NY 10023. Editor: Jonathan Rosenbloom, One Lincoln Plaza, New York, NY 10023. Managing Editor: None
7. Owner: Children's Television Workshop (non-stock corporation), One Lincoln Plaza, New York, NY 10023
8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities: None
9. For Completion by Nonprofit Organizations Authorized to Mail at Special Rates (Section 423.12 DMM only) The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during preceding 12 months.

Average Number of Copies Each Issue During Preceding 12 Months	
(A) Total No. Copies (net press run)	460,397
(B) Paid and/or Requested Circulation	
1. Sales through dealers and carriers, street vendors and counter sales	0
2. Mail subscription (paid and/or requested)	434,823
(C) Total Paid and/or Requested Circulation	434,823
(D) Free distribution by mail, carrier or other means: samples, complimentary and other free copies	19,480
(E) Total Distribution (sum of C and D)	454,303
(F) Copies not distributed	
1. Office use, left over, unaccounted, spoiled after printing	6,094
2. Return from News Agents	0
(G) TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	460,397
Actual Number of Copies of Single Issue Published Nearest to Filing Date:	
(A) Total No. Copies (net press run)	437,451
(B) Paid and/or Requested Circulation	
1. Sales through dealers and carriers, street vendors and counter sales	0
2. Mail subscription (paid and/or requested)	431,085
(C) Total Paid and/or Requested Circulation	431,085
(D) Free distribution by mail, carrier or other means: samples, complimentary, and other free copies	973
(E) Total Distribution (Sum of C and D)	432,058
(F) Copies Not Distributed	
1. Office use, left over, unaccounted, spoiled after printing	5,393
2. Return from News Agents	0
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